SERVICE MANUAL ORIGINAL

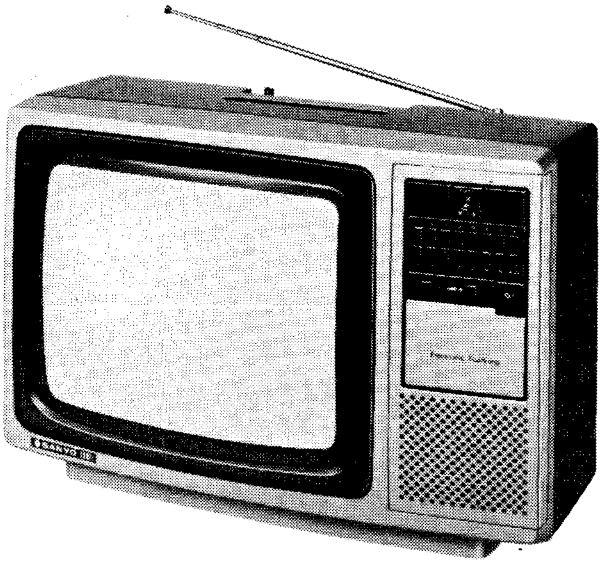
COLOUR TELEVISION

Chassis No. 80P-D14-B2ZW00

SANYO

CTP 3246D

Chassis number is printed in the rating plate affixed to the cabinet back.



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For detail information (circuit analysis and troubleshooting techniques), refer to the training manual of 80P chassis.

WM-6625 Sep./'81/SI Printed in Japan

SANYO ELECTRIC CO., LTD.
SANYO ELECTRIC TRADING CO., LTD.

SAFETY PRECAUTIONS

1. An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set.
2. Comply with all caution and safety-related notes provided on cabinet back, inside the cabinet, on the chassis or the picture tube.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, isolation resistor-capacitor networks etc.

   Before returning any television to the customer, the service technician must be sure that it is completely safe to operate without danger of electrical shock.

X-RADIATION PRECAUTION

The primary source of X-RADIATION in television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limits. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for +B1 volt power supply adjustment, and high voltage adjustment to maintain the high voltage within the specified limits.

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark ⚠. No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark ⚠

SPECIFICATIONS

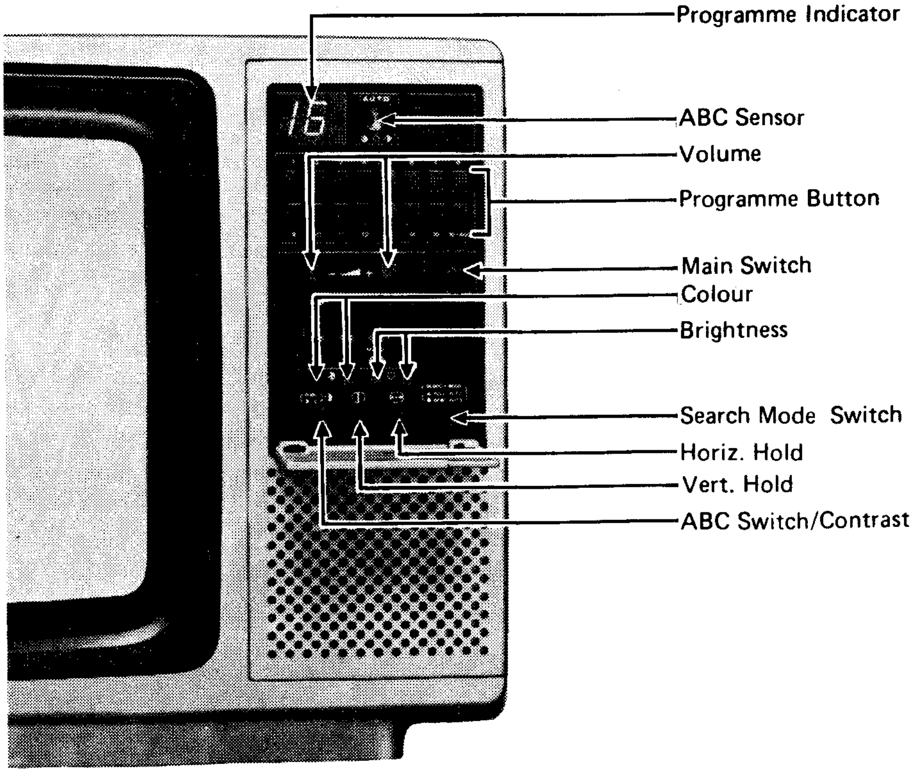
Television system	625-line, PAL colour
Power Source	AC 220V, 50Hz
Power consumption	58W
Receiving channels	VHF ch 2-12 UHF ch 21-69
Aerial input impedance	75 ohms
Intermediate frequencies	Video 38.9MHz Sound 33.4MHz Colour 34.47MHz
Audio output	1.5W, 10% distortion
Speaker	10 x 10cm, 8 ohm

Picture tube	37cm diagonal, 90 degree Type No. 370KRB22
High voltage	21kV at Zero beam
Semiconductors	35 Transistors 11 ICs 80 Diodes
Dimensions	Width 498mm Height 339mm Depth 375mm
Weight	13kg

SUMMARY

14" COLOUR TV WITH REMOTE CONTROL
All solid state circuitry for stable quality, less power consumption and high reliability. Simplified chassis construction with 1 main circuit board for easy access and servicing. In-line gun, slotted mask black matrix picture tube with 90° deflection angle. Convergence-free tube system. Instant-Start for instant picture and sound in standby mode.

16 programmes can be memorized by the automatic search tuning system which automatically searches the stations and stores them in the electronic memory.
With 25 functions infra-red remote control.


Programme Indicator
ABC Sensor
Volume
Programme Button
Main Switch
Colour
Brightness
Search Mode Switch
Horiz. Hold
Vert. Hold
ABC Switch/Contrast

CHASSIS DISCRIPTION

Described below are the characteristics of this model. Adequate knowledge about will enhance the understanding of the chassis and help the service engineer in the execution of his work.

TUNER:

Solid state all channel varactor tuner is employed on this model. Any programme of VHF (2 ~ 12) and UHF (21 ~ 69) can be tuned.

VIF & SIF:

In the VIF and SIF circuit of the former 79P chassis, signals were processed from the LA1357N of the VIF circuitry to LA1365 of the SIF circuitry. In this chassis, all signals of the VIF and SIF circuitry are processed by one IC, M51356P.

SOUND:

The audio amplifier IC is employed in this chassis. The preamplifier, the sound drive, and the output amplifier are all incorporated into LA4220.

MUTE:

The mute IC (µPD 4011BC) is employed in this chassis. The sound automatically stop when receiver is not received the signals.

VIDEO & CHROMA:

In the video and chroma circuitry of the former 79P chassis, signals were processed by the M51381P IC of the video circuitry and the TA7193P IC of the chroma circuitry. In the new 80P chassis (this chassis), all signals of the video and chroma circuitry are processed by one IC, M51394P.

SYNC., VERT. OSC. & HORIZ. OSC.:

The deflection IC for this chassis is the newly developed LA7800. Comparison with the LA1460 used in the 79P chassis reveals the following points:

1. It is a 16-pin DIL. (The LA1460 was a 22-pin DIL.)
2. A 12V stabilization circuit is built in.
3. There is a smaller number of parts in the sync-separation stage.

VERTICAL OUTPUT:

The main feature of the vertical output circuitry of the 80P chassis is that it employs a two-power-source pump-up system. This system is employed in order to eliminate the unnecessary electric power which is supplied in the first half of the scanning period in the conventional one-power-source system.

HORIZONTAL DRIVE:

The horizontal-drive circuit current-amplifies the signal generated by the horizontal-oscillation stage inside the deflection IC (IC401), and provides sufficient switching for horizontal-output transistor Q451.

HORIZONTAL OUTPUT:

The output transistor utilized in the horizontal output circuitry is a built-in damper diode type of transistor.

The FBT (flyback transformer) is a built-in high-voltage block in which the high-voltage block and the FBT are an integrated unit. The 5th harmonic tuning system is used in the FBT. The high-voltage pulses produced inside the FBT are rectified by the double-voltage rectifier circuit (doubler system) in order to obtain the specified high voltage.

The screen voltage is taken from the focus resistor.

POWER SUPPLY:

The power-supply circuitry of the 80P chassis (this chassis), because it is the switching regulator type and adopts the converter system, reduces the amount of power loss, and is the insulated type. It was especially designed with the objective of receiving approval as an IEC standard class II type.

REMOTE CONTROL:

This system uses infrared rays for the remote control of the colour television receiver. For this purpose, it incorporates a PIN photo diode which, when driven, emits the infrared ray 940NM in wavelength.

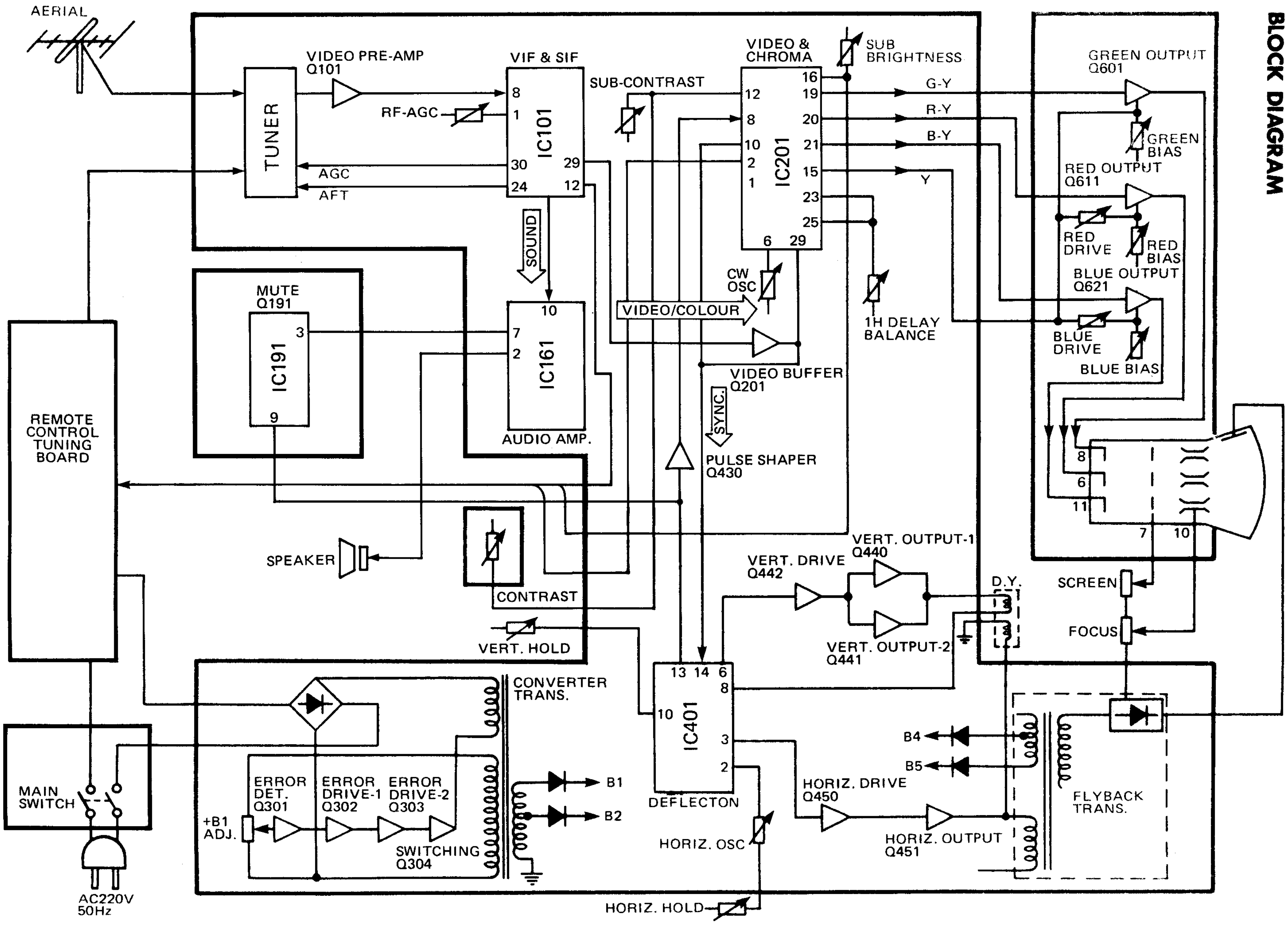
The 940NM infrared ray is modulated by the 38KHz frequency and is, at the same time, made to undergo pulse code modulation (PCM). Furthermore, design considerations are built into the receiver which responds only when the same signal code is applied to it three times from the transmitter. Thus, it is almost perfectly free from erroneous operation that may otherwise be caused by natural noise.

Thirty kinds of input signal codes are employed for the remote control of colour TV receiver operation. Also, 12 kinds of signal codes are made available for input from the colour TV receiver.

AUTO SEARCH TUNING:

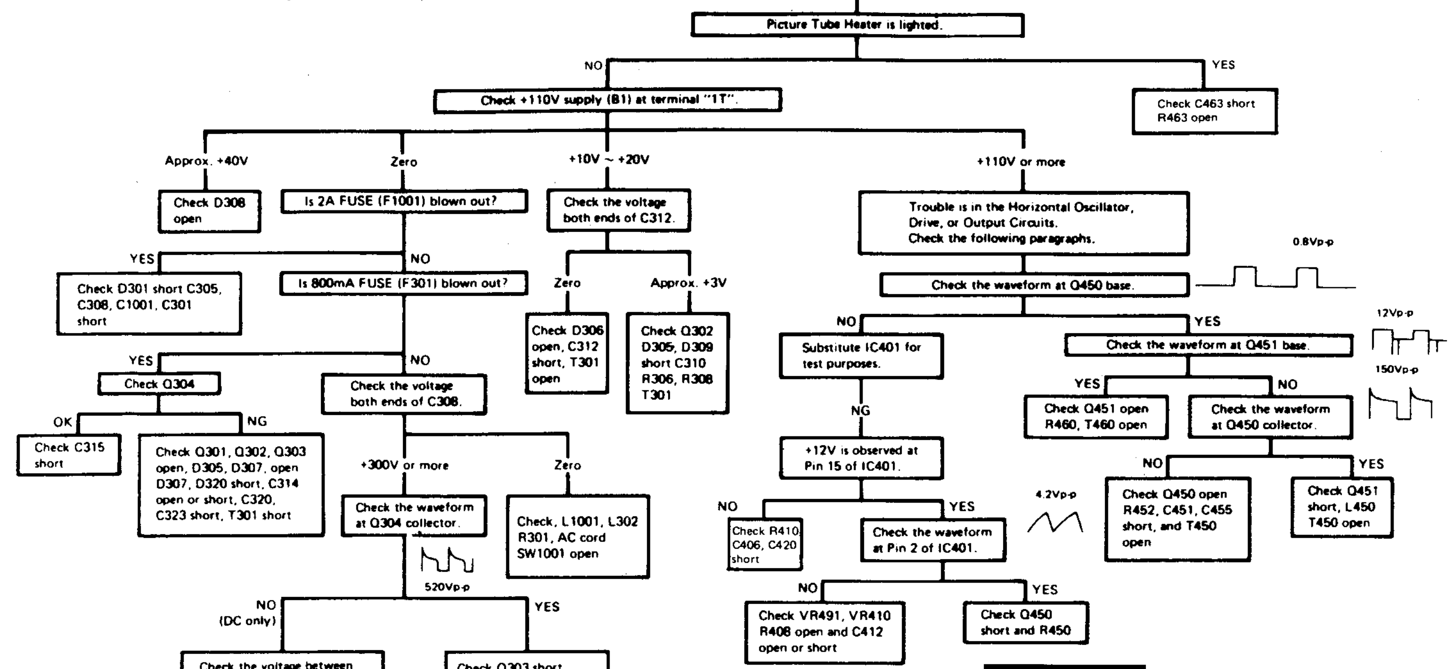
In this system, non-volatile IC memories are used to store tuning voltages, bands and AFT information as to the channel positions. Also incorporated in it is the auto-search mechanism in which signal for stopping search operation is produced from the sync separator and blanking signals.

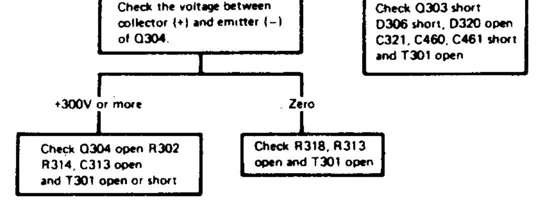
BLOCK DIAGRAM


AERIAL
TUNER
VIDEO PRE-AMP
Q101
RF-AGC
AGC
AFT
VIF & SIF
IC101
8
1
30
24
29
12
SOUND
SUB-CONTRAST
VIDEO &
CHROMA
IC201
16
12
19
8
20
10
21
2
15
1
23
25
6
29
SUB
BRIGHTNESS
G-Y
R-Y
B-Y
Y
CW
OSC
1H DELAY
BALANCE
VIDEO/COLOUR
VIDEO BUFFER
Q201
SYNC.
PULSE SHAPER
Q430
GREEN OUTPUT
Q601
GREEN
BIAS
RED OUTPUT
Q611
RED
DRIVE
RED
BIAS
BLUE OUTPUT
Q621
BLUE
DRIVE
BLUE BIAS
8
6
11
7
10
MUTE
Q191
IC191
3
9
IC161
10
7
2
AUDIO AMP.
REMOTE
CONTROL
TUNING
BOARD
SPEAKER
CONTRAST
VERT. HOLD
VERT. DRIVE
Q442
VERT. OUTPUT-1
Q440
VERT. OUTPUT-2
Q441
D.Y.
SCREEN
FOCUS
IC401
13
14
6
8
10
3
2
DEFLECTON
HORIZ. OSC
HORIZ. HOLD
HORIZ. DRIVE
Q450
HORIZ. OUTPUT
Q451
B4
B5
FLYBACK
TRANS.
CONVERTER
TRANS.
B1
B2
ERROR
DET.
Q301
ERROR
DRIVE-1
Q302
ERROR
DRIVE-2
Q303
SWITCHING
Q304
+B1
ADJ.
MAIN
SWITCH
AC220V
50Hz

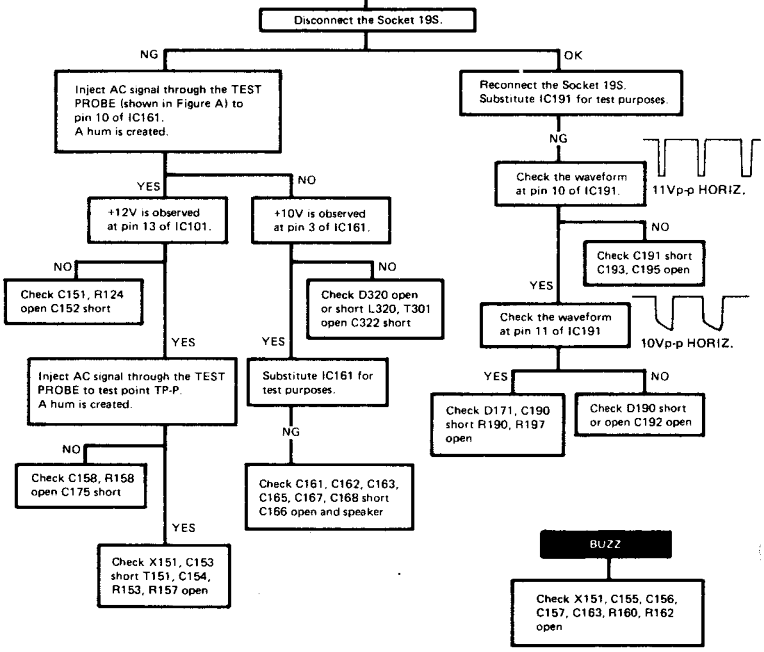
TROUBLESHOOTING CHARTS

NO RASTER NO SOUND

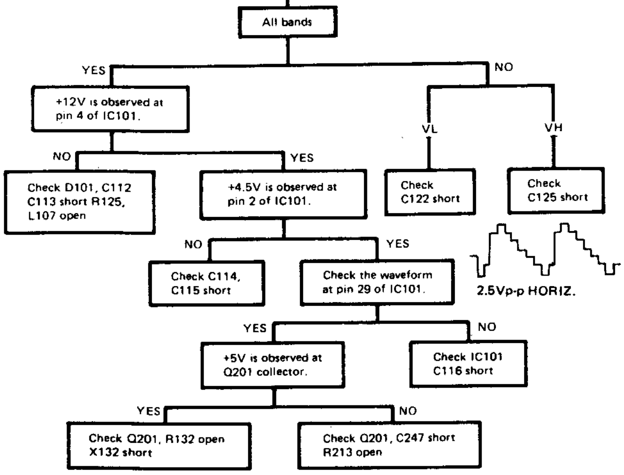

Picture Tube Heater is lighted.
NO
YES
Check C463 short
R463 open
Check +110V supply (B1) at terminal "1T".
Approx. +40V
Zero
+10V ~ +20V
+110V or more
Check D308 open
Is 2A FUSE (F1001) blown out?
Check the voltage both ends of C312.
Trouble is in the Horizontal Oscillator, Drive, or Output Circuits.
Check the following paragraphs.
0.8Vp-p
YES
NO
Check D301 short C305, C308, C1001, C301 short
Is 800mA FUSE (F301) blown out?
Zero
Approx. +3V
Check D306 open, C312 short, T301 open
Check Q302 D305, D309 short C310 R306, R308 T301
Check the waveform at Q450 base.
NO
YES
Substitute IC401 for test purposes.
Check the waveform at Q451 base.
12Vp-p
150Vp-p
YES
NO
Check Q304
OK
NG
Check C315 short
Check Q301, Q302, Q303 open, D305, D307, open D307, D320 short, C314 open or short, C320, C323 short, T301 short
Check the voltage both ends of C308.
+300V or more
Zero
Check the waveform at Q304 collector.
520Vp-p
Check, L1001, L302 R301, AC cord SW1001 open
NG
+12V is observed at Pin 15 of IC401.
NO
YES
Check R410 C406, C420 short
Check the waveform at Pin 2 of IC401.
4.2Vp-p
NO
YES
Check VR491, VR410 R408 open and C412 open or short
Check Q450 short and R450
YES
NO
Check Q451 open R460, T460 open
Check the waveform at Q450 collector.
NO
YES
Check Q450 open R452, C451, C455 short, and T450 open
Check Q451 short, L450 T450 open


NO (DC only)
YES
Check the voltage between collector (+) and emitter (−) of Q304.
Check Q303 short D306 short, D320 open C321, C460, C461 short and T301 open
+300V or more
Zero
Check Q304 open R302 R314, C313 open and T301 open or short
Check R318, R313 open and T301 open

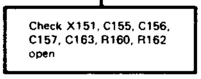
NO SOUND


Disconnect the Socket 19S.
NG
OK
Inject AC signal through the TEST PROBE (shown in Figure A) to pin 10 of IC161.
A hum is created.
Reconnect the Socket 19S.
Substitute IC191 for test purposes.
NG
Check the waveform at pin 10 of IC191.
11Vp-p HORIZ.
YES
NO
+12V is observed at pin 13 of IC101.
+10V is observed at pin 3 of IC161.
NO
Check C191 short C193, C195 open
YES
Check the waveform at pin 11 of IC191
10Vp-p HORIZ.
NO
NO
Check C151, R124 open C152 short
Check D320 open or short L320, T301 open C322 short
YES
YES
Inject AC signal through the TEST PROBE to test point TP-P.
A hum is created.
Substitute IC161 for test purposes.
YES
NO
Check D171, C190 short R190, R197 open
Check D190 short or open C192 open
NO
NG
Check C158, R158 open C175 short
Check C161, C162, C163, C165, C167, C168 short C166 open and speaker
YES
Check X151, C153 short T151, C154, R153, R157 open

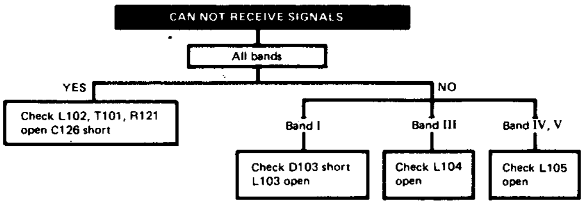
NO VIDEO NO SOUND


All bands
YES
NO
+12V is observed at pin 4 of IC101.
VL
VH
NO
YES
Check D101, C112 C113 short R125, L107 open
+4.5V is observed at pin 2 of IC101.
Check C122 short
Check C125 short
NO
YES
Check C114, C115 short
Check the waveform at pin 29 of IC101.
2.5Vp-p HORIZ.
YES
NO
+5V is observed at Q201 collector.
Check IC101 C116 short
YES
NO
Check Q201, R132 open X132 short
Check Q201, C247 short R213 open

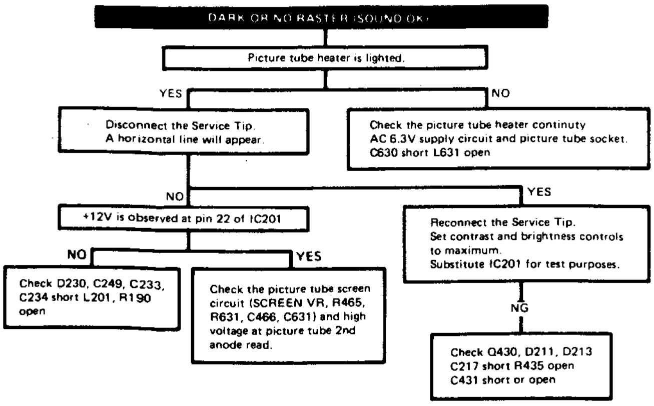
BUZZ


Check X151, C155, C156, C157, C163, R160, R162 open

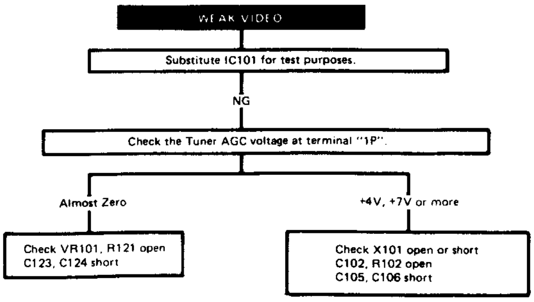
CAN NOT RECEIVE SIGNALS


All bands
YES
NO
Check L102, T101, R121 open C126 short
Band I
Band III
Band IV, V
Check D103 short L103 open
Check L104 open
Check L105 open

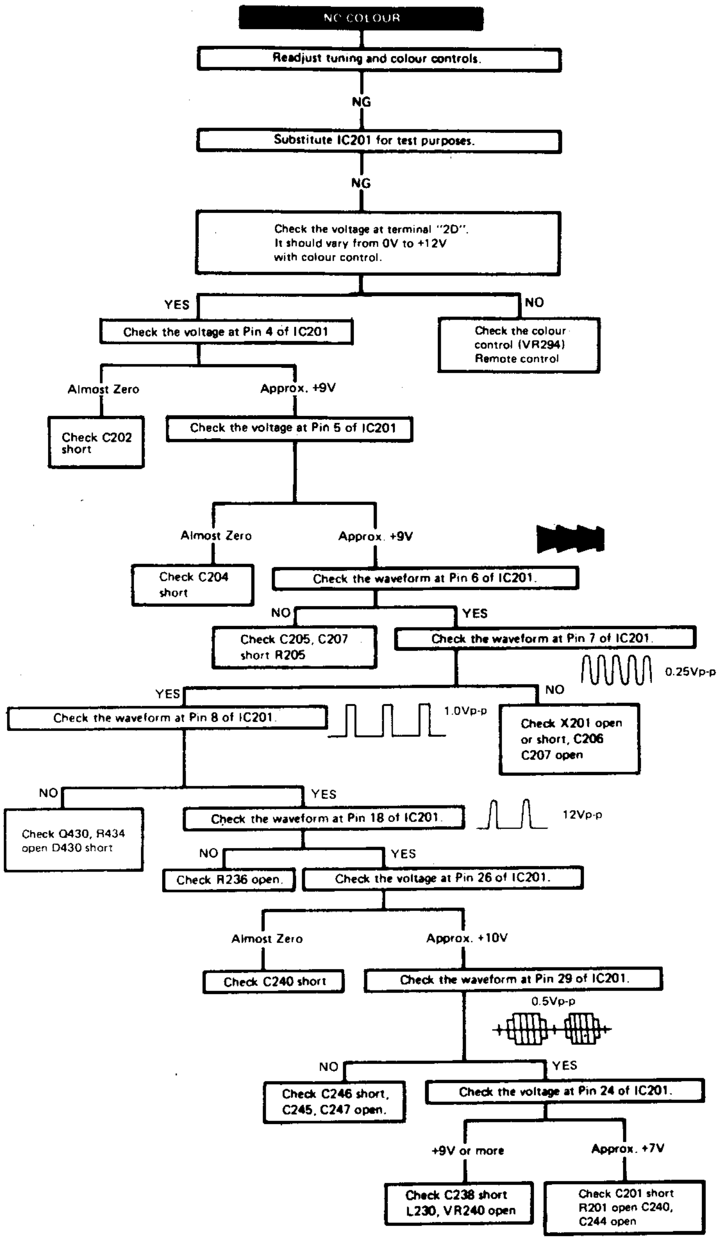
DARK OR NO RASTER (SOUND OK)


Picture tube heater is lighted.
YES
NO
Disconnect the Service Tip.
A horizontal line will appear.
Check the picture tube heater continuity AC 6.3V supply circuit and picture tube socket.
C630 short L631 open
NO
YES
+12V is observed at pin 22 of IC201
Reconnect the Service Tip.
Set contrast and brightness controls to maximum.
Substitute IC201 for test purposes.
NO
YES
Check D230, C249, C233, C234 short L201, R190 open
Check the picture tube screen circuit (SCREEN VR, R465, R631, C466, C631) and high voltage at picture tube 2nd anode read.
NG
Check Q430, D211, D213 C217 short R435 open C431 short or open

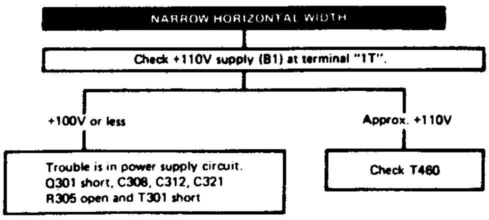
WEAK VIDEO


Substitute IC101 for test purposes.
NG
Check the Tuner AGC voltage at terminal "1P".
Almost Zero
+4V, +7V or more
Check VR101, R121 open C123, C124 short
Check X101 open or short C102, R102 open C105, C106 short

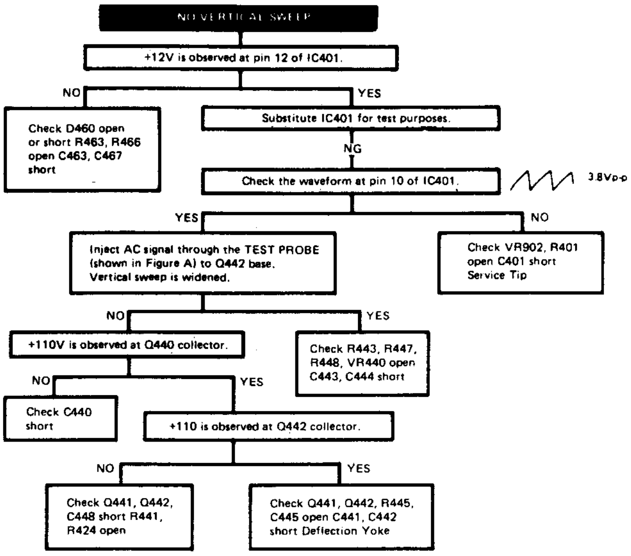
NO COLOUR


Readjust tuning and colour controls.
NG
Substitute IC201 for test purposes.
NG
Check the voltage at terminal "2D". It should vary from 0V to +12V with colour control.
YES
NO
Check the voltage at Pin 4 of IC201
Check the colour control (VR294) Remote control
Almost Zero
Approx. +9V
Check C202 short
Check the voltage at Pin 5 of IC201
Almost Zero
Approx. +9V
Check C204 short
Check the waveform at Pin 6 of IC201.
NO
YES
Check C205, C207 short R205
Check the waveform at Pin 7 of IC201.
0.25Vp-p
YES
NO
Check the waveform at Pin 8 of IC201.
1.0Vp-p
Check X201 open or short, C206 C207 open
NO
YES
Check Q430, R434 open D430 short
Check the waveform at Pin 18 of IC201.
12Vp-p
NO
YES
Check R236 open.
Check the voltage at Pin 26 of IC201.
Almost Zero
Approx. +10V
Check C240 short
Check the waveform at Pin 29 of IC201.
0.5Vp-p
NO
YES
Check C246 short, C245, C247 open.
Check the voltage at Pin 24 of IC201.
+9V or more
Approx. +7V
Check C238 short L230, VR240 open
Check C201 short R201 open C240, C244 open

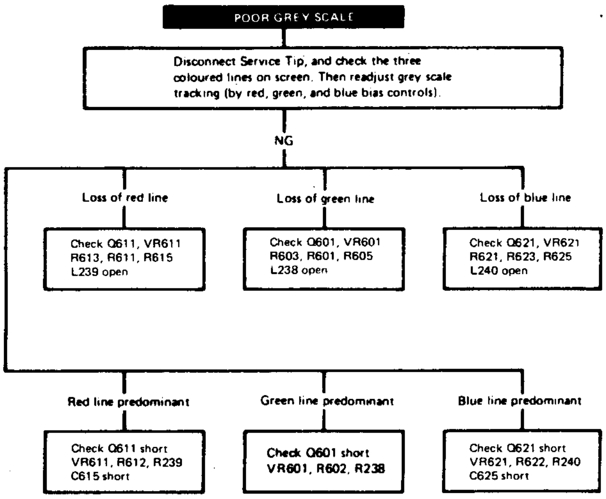
NARROW HORIZONTAL WIDTH


Check +110V supply (B1) at terminal "1T".
+100V or less
Approx. +110V
Trouble is in power supply circuit. Q301 short, C308, C312, C321 R305 open and T301 short
Check T460

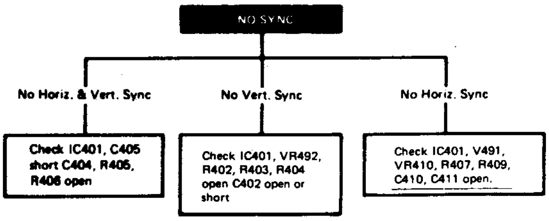
NO VERTICAL SWEEP


+12V is observed at pin 12 of IC401.
NO
YES
Check D460 open or short R463, R466 open C463, C467 short
Substitute IC401 for test purposes.
NG
Check the waveform at pin 10 of IC401.
3.8Vp-p
YES
NO
Inject AC signal through the TEST PROBE (shown in Figure A) to Q442 base. Vertical sweep is widened.
Check VR902, R401 open C401 short Service Tip
NO
YES
+110V is observed at Q440 collector.
Check R443, R447, R448, VR440 open C443, C444 short
NO
YES
Check C440 short
+110 is observed at Q442 collector.
NO
YES
Check Q441, Q442, C448 short R441, R424 open
Check Q441, Q442, R445, C445 open C441, C442 short Deflection Yoke

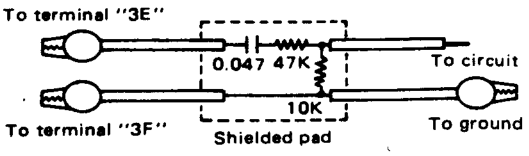
POOR GREY SCALE


Disconnect Service Tip, and check the three coloured lines on screen. Then readjust grey scale tracking (by red, green, and blue bias controls).
NG
Loss of red line
Loss of green line
Loss of blue line
Check Q611, VR611 R613, R611, R615 L239 open
Check Q601, VR601 R603, R601, R605 L238 open
Check Q621, VR621 R621, R623, R625 L240 open
Red line predominant
Green line predominant
Blue line predominant
Check Q611 short VR611, R612, R239 C615 short
Check Q601 short VR601, R602, R238
Check Q621 short VR621, R622, R240 C625 short

NO SYNC


No Horiz. & Vert. Sync
No Vert. Sync
No Horiz. Sync
Check IC401, C405 short C404, R405, R406 open
Check IC401, VR492, R402, R403, R404 open C402 open or short
Check IC401, V491, VR410, R407, R409, C410, C411 open.

TEST PROBE


To terminal "3E"
0.047
47K
10K
To circuit
To terminal "3F"
Shielded pad
To ground

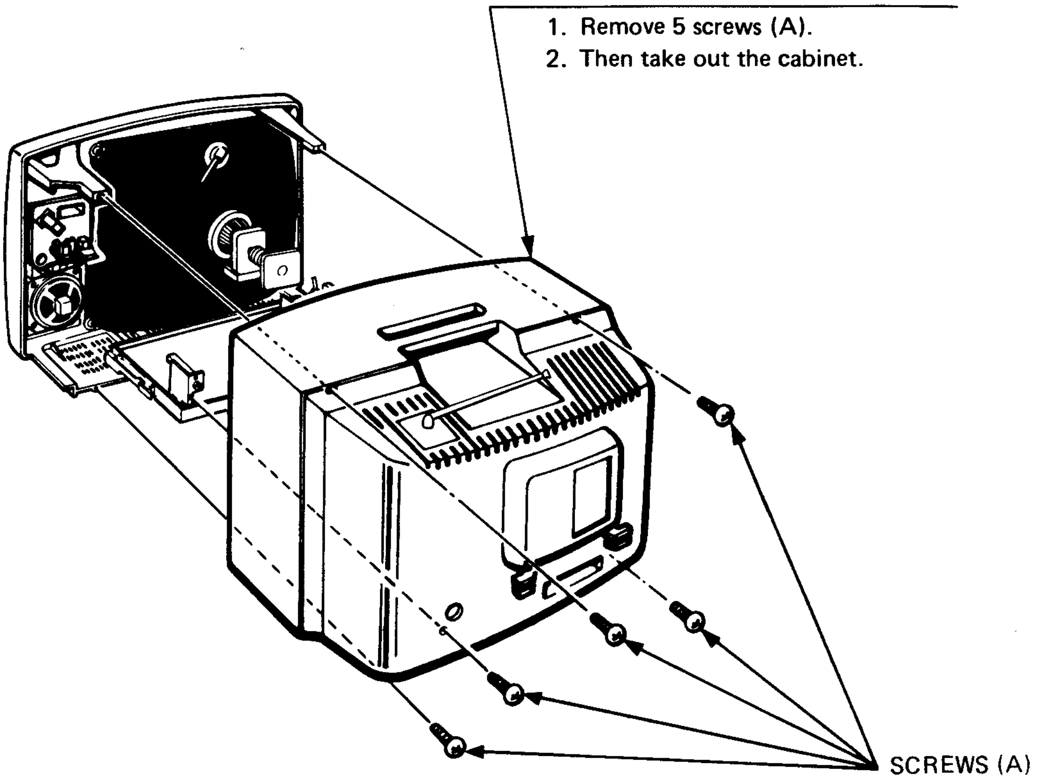
The AC signals are taken from AC 220V line on main board terminals "3E" and "3F", and attenuated Test probe, about 24V AC is obtained at end of probe.

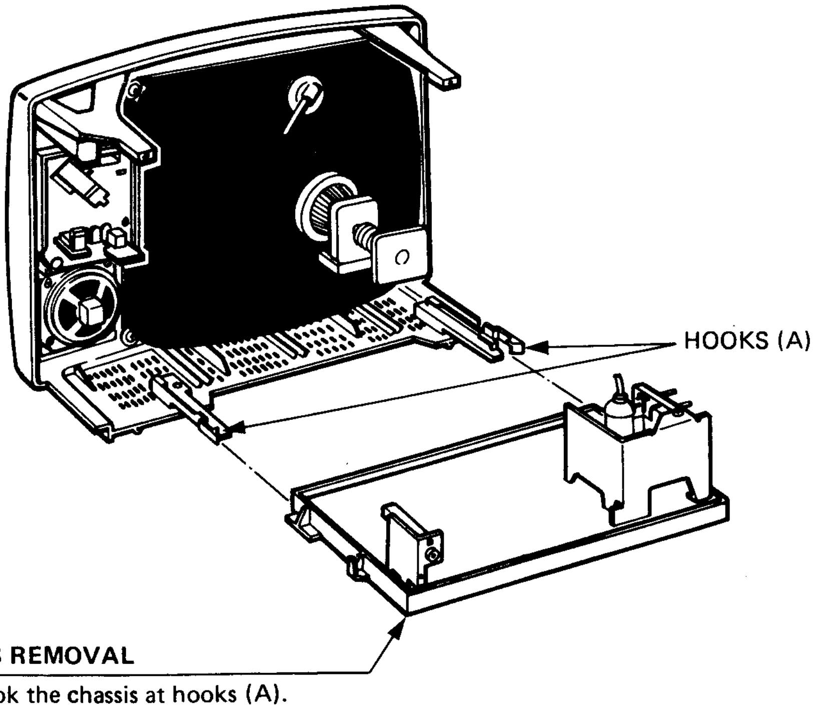
Figure A

DISASSEMBLY

CABINET REMOVAL

1. Remove 5 screws (A).
2. Then take out the cabinet.



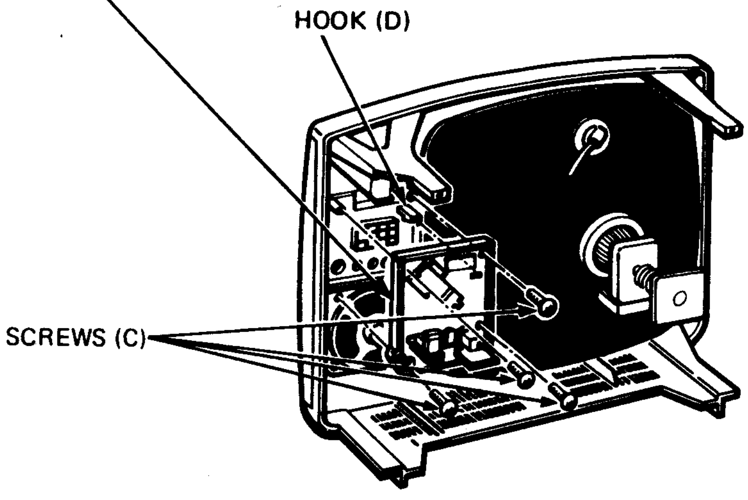


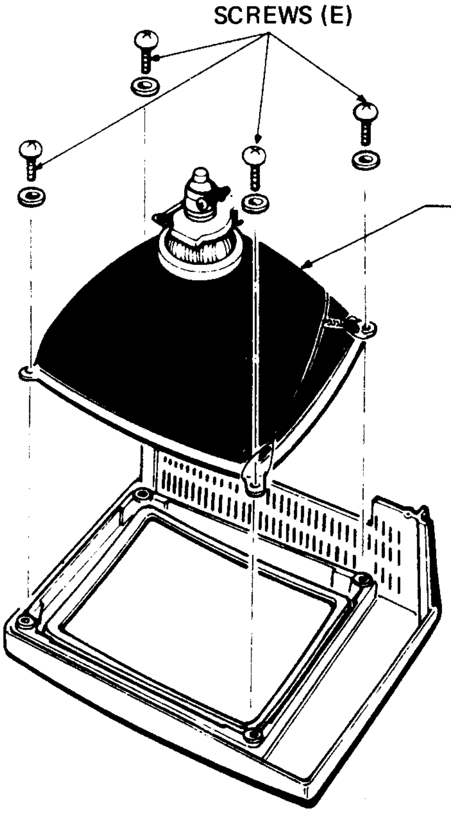
CHASSIS REMOVAL

1. Unhook the chassis at hooks (A).
2. Then draw out this chassis.

③ CONTROLS BRACKET REMOVAL

1. Remove 4 screws (C)
2. Remove this bracket by releasing hook (D).





⑦ PICTURE TUBE REMOVAL

1. Place the picture tube face down on a soft surface.
2. Remove 4 screws (E).
3. Gently lift out the picture tube and place it on a soft surface.

SERVICE CONTROL ADJUSTMENTS

SUB-BRIGHTNESS ADJUSTMENT

NOTE: +110V power supply, AGC and grey scale tracking should be adjusted before attempting this adjustment.

1. Tune the receiver to colour bar pattern.
2. Set brightness to normal, contrast to maximum and colour to minimum.
3. Connect D.C. meter between test points "TP-H" (+ lead) and "TP-G" (– lead).
4. Adjust VR230 for 0.7V.

VERTICAL SIZE ADJUSTMENT

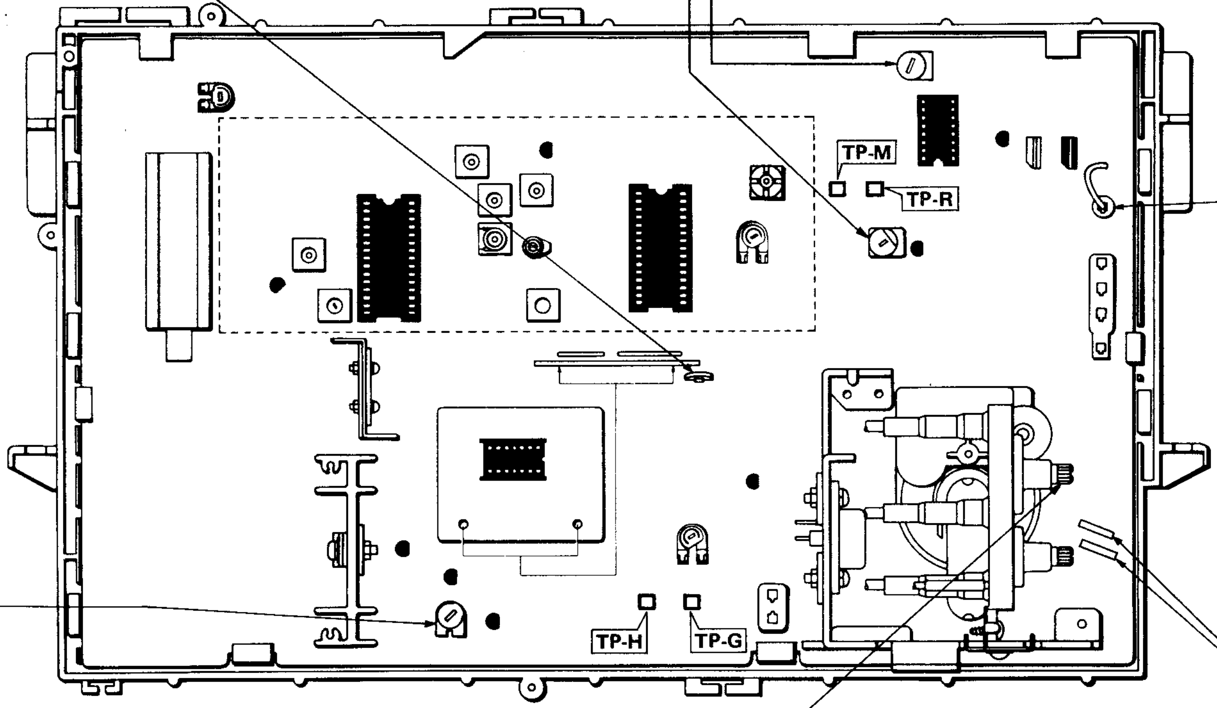
1. Tune the receiver to circular pattern.
2. Adjust VR440 to obtain proper picture.

HORIZONTAL OSCILLATION ADJUSTMENT

1. Set horizontal hold (VR901) to mechanical centre of its range.
2. Connect a short jumper between test points "TP-M" and "TP-R".
3. Adjust VR410 to momentarily synchronize picture.

VERTICAL CENTRING ADJUSTMENT

1. Set vertical and horizontal hold controls for a properly synchronized picture.
2. Vertical centring can be adjusted by connecting vertical tip to anyone of three terminals.



FOCUS ADJUSTMENT

Adjust focus control on the right side of the chassis for well scanning lines.

+110V (+B1) POWER SUPPLY ADJUSTMENT

1. Tune the receiver to colour bar pattern.
2. Set brightness and contrast to maximum, and colour to normal.
3. Connect voltmeter to terminal "1T".
4. Adjust VR301 for +110V.

HORIZONTAL WIDTH AND HIGH-VOLTAGE ADJUSTMENT

NOTE: +110V power supply, AGC and grey scale tracking should be adjusted before attempting this adjustment.

1. Tune the receiver to colour bar pattern.
2. Set brightness and contrast to maximum and colour to minimum.
3. Check picture width. If picture is too wide or narrow, cut or short the leads (AJ1, AJ2). In case the lead is cut, horizontal width will be decreased and the lead is shorted, it will be increased.
4. Connect a high-voltage meter to anode on picture tube.
5. Check high-voltage. High-voltage must measure 19KV ±1.0KV. If high-voltage is lower than 18KV, clip the leads AJ1, AJ2. (By attempting this, the high-voltage is increased approx. 0.5KV.)

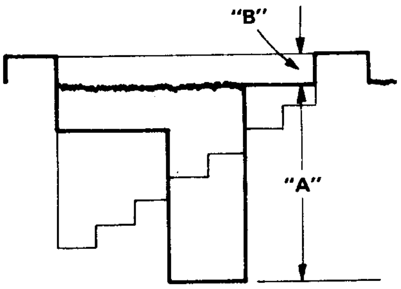
Remarks: This adjustment affects sub-brightness. Therefore, recheck sub-brightness adjustment.

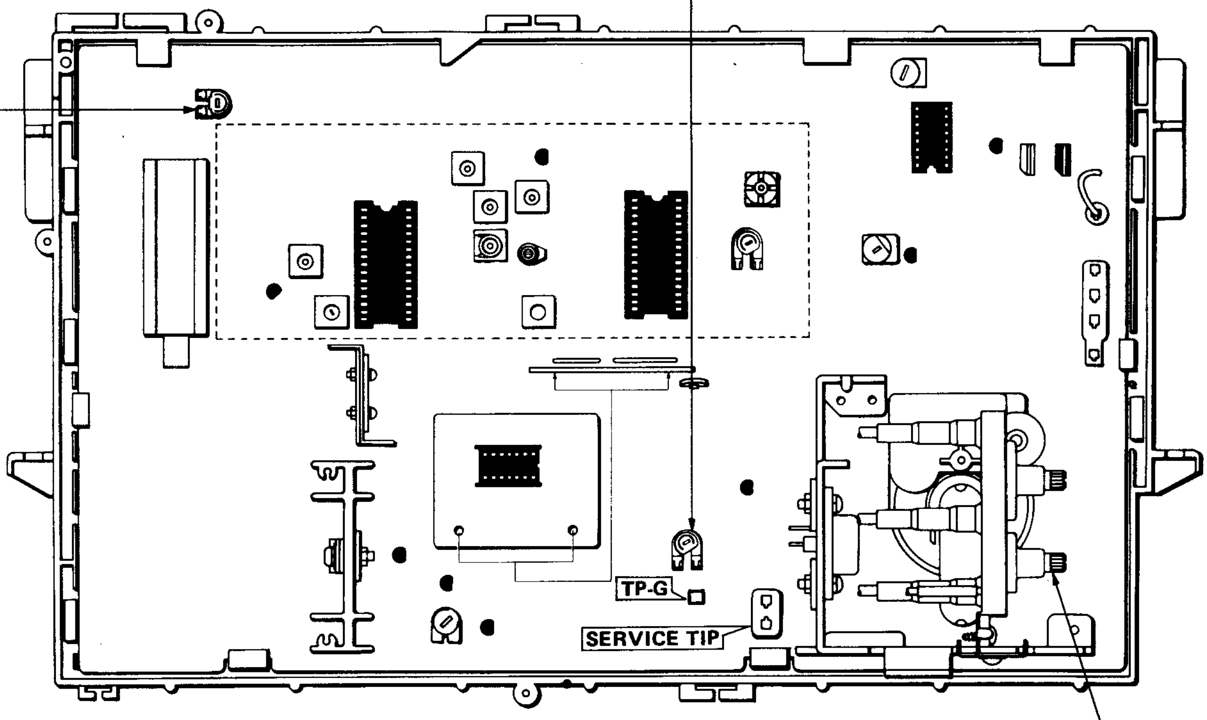
TU-AGC ADJUSTMENT

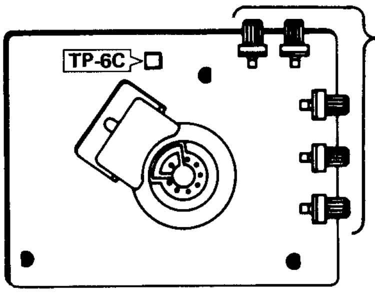
1. Tune the receiver to clearest station.
2. Rotate VR101 fully clockwise and then it anti-clockwise slowly until the snow just disappear.

SUB-CONTRAST ADJUSTMENT

1. Tune the receiver to colour bar pattern.
2. Set contrast to maximum and colour to minimum.
3. Connect oscilloscope to "TP-6C".
4. Connect a short lead between test point "TP-G" and ground.
5. Set brightness for 5Vp-p at "B" as illustrated below.
6. Adjust VR210 for 80Vp-p at "A" as illustrated below.







GREY SCALE TRACKING ADJUSTMENT

1. Set brightness and contrast to maximum, and colour to minimum.
2. Disconnect service tip.
3. Set red (VR612) and blue (VR622) drive controls to mid-range.
4. Set red (VR611), green (VR601) and blue (VR621) bias controls to minimum.
5. Adjust screen control to obtain just visible one coloured line.
6. Advance each bias control to obtain just visible three coloured lines.
7. Reconnect service tip.
8. Adjust red and blue drive controls alternately to produce normal black and white picture.
9. Check for proper grey scale tracking at all brightness levels.

CIRCUIT ALIGNMENTS

VIDEO IF ALIGNMENT

PRELIMINARIES

1. Disconnect power cord from outlet.
2. Disconnect service tip.
3. Apply +15V D.C. to terminal "1J".
   Apply +4V D.C. to test point "TP-C".
4. Connect oscilloscope to test point "TP-F" through 10K ohm resistor.
5. Connect sweep/marker generator output to "TP" on tuner through matching pad as shown in figure-1.
6. Apply +5V D.C. to terminal "1D".

ALIGNMENT PROCEDURE

1. Adjust T131 for maximum response at 38.9MHz.
2. Adjust T133 for minimum response at 33.4MHz.
3. Short between test points "TP-D" and "TP-E" with a damping resistor as shown in figure-2.
4. Adjust IFT on tuner for maximum response at 34.47MHz and then it anti-clockwise for 25% response at 34.47MHz.
5. Adjust T101 for 20% response at 38.9MHz.

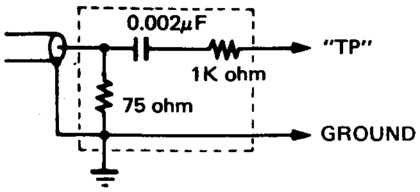


Figure-1

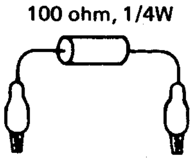


Figure-2

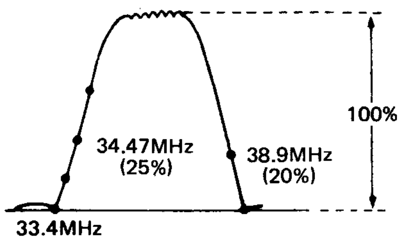
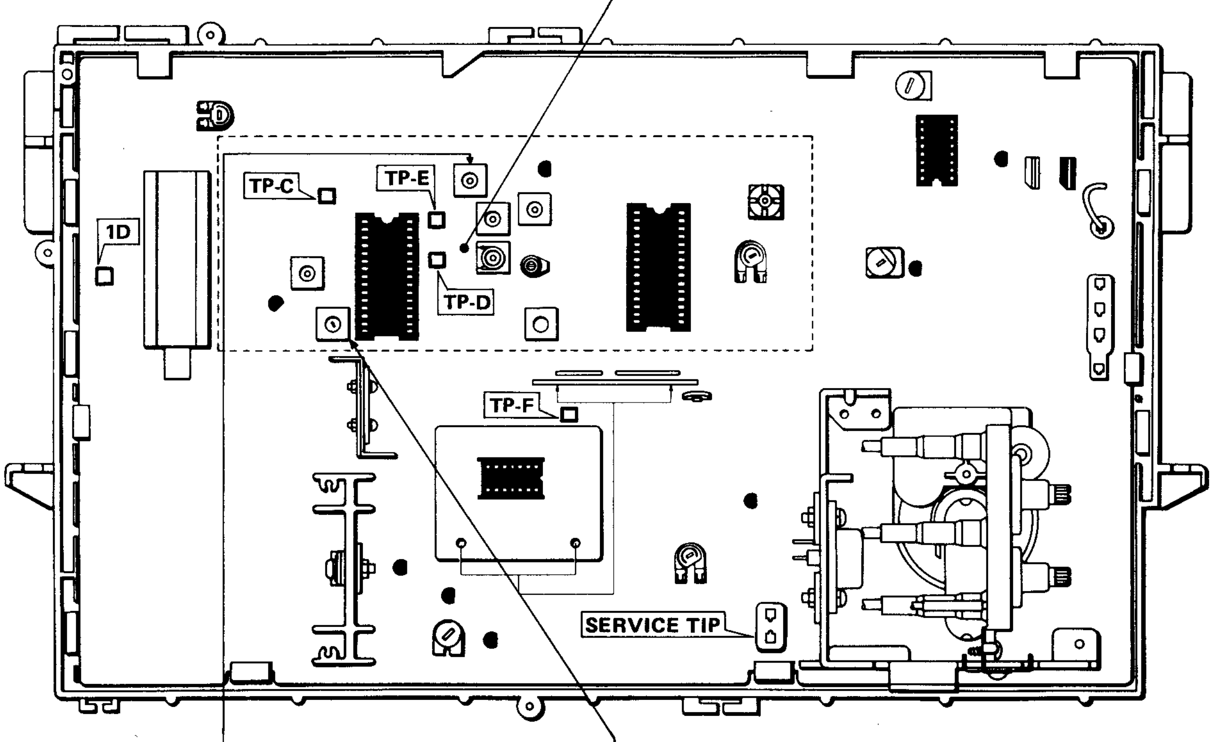


Figure-3



AFT ALIGNMENT

1. Tune the receiver to colour bar pattern.
2. Adjust T132 to obtain best picture.

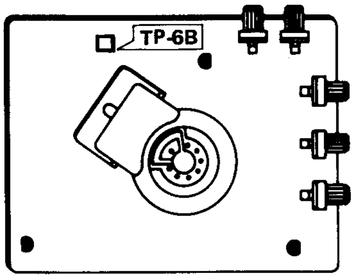
SOUND IF ALIGNMENT

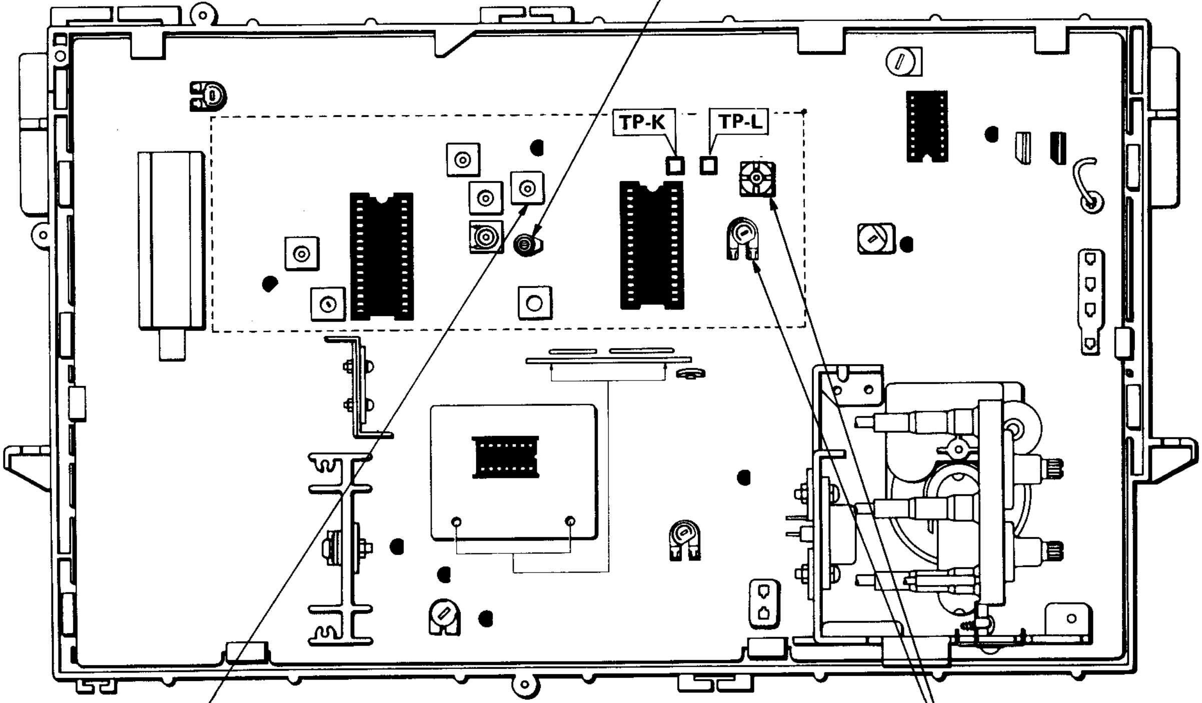
1. Tune the receiver to an active channel.
2. Adjust SIF det. trans. (T151) for maximum audio with minimum noise and hum.

CHROMA ALIGNMENTS

CW. OSC. ALIGNMENT

1. Tune the receiver to colour bar pattern.
2. Set brightness and colour to normal, and contrast ot maximum.
3. Short between test points "TP-K" and "TP-L" with a short clip as shown in figure-3.
4. Connect a short lead between pin 22 and pin 26 of IC201.
5. Adjust VC201 to obtain colour synchronized picture.





APC ALIGNMENT

1. Tune the receiver to colour bar pattern.
2. Connect oscilloscope to test point "TP-6B" on CRT board.
3. Set brightness and colour controls to normal, and contrast to maximum.
4. Adjust T230 for maximum amplitude of "A" in figure-1.

1H DELAY ALIGNMENT

1. Tune the receiver to colour bar pattern.
2. Connect oscilloscope to test point "TP-6B" on CRT board.
3. Set brightness and colour controls to normal, and contrast to maximum.
4. Adjust VR240 for minimum amplitude of "B" as shown in figure-1.
5. Adjust T231 to obtain each 1H waveform (amplitude) for the same as shown in figure-2.

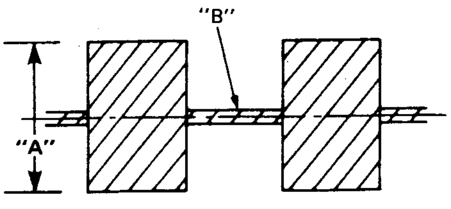


Figure-1 (Vert.)

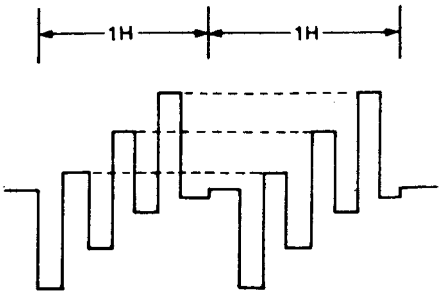


Figure-2 (Horiz.)

NORMALIZATION ADJUSTMENTS

COLOUR PRE-SET ADJUSTMENT

1. Tune the receiver to colour bar pattern.
2. Set contrast to maximum and ABC switch to off.
3. Set colour to normal position by pressing the normalization button on remote control transmitter.

NOTE: Do not press the colour up/down (+, –) buttons on T.V. receiver or remote control transmitter during this adjustment.

4. Connect a short lead between test point "TP-G" and ground.
5. Connect oscilloscope to collector of Q621.
6. Adjust VR721 to obtain proper waveforms as shown figure-1.

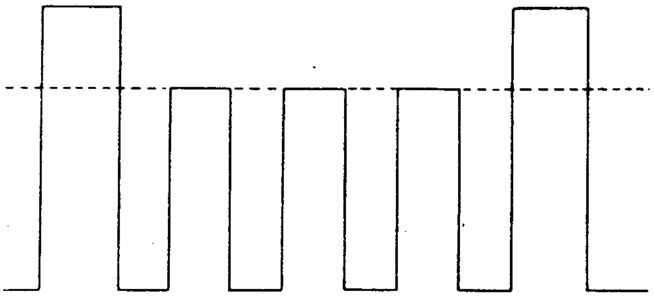
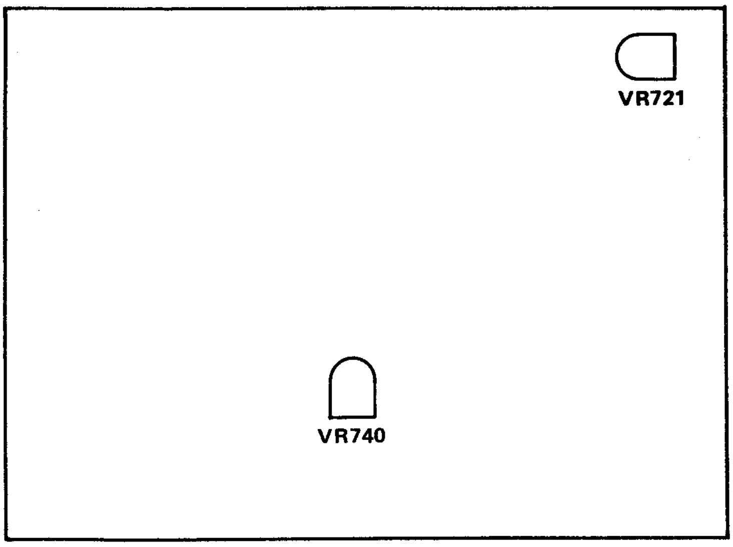


Figure-1.



REMOTE CONTROL TUNING BOARD

Figure-2

SOUND VOLUME PRE-SET ADJUSTMENT

1. Tune the receiver to an active station.
2. Set sound volume to pre-set position by turning T.V. set on. (In case the receiver is on position, turn the receiver off then turn it on.)

NOTE: Do not press the sound volume up/down (+, –) buttons on T.V. receiver or remote control transmitter during this adjustment.

3. Adjust VR740 to proper sound volume.

SET UP PICTURE TUBE ADJUSTMENTS

CAUTION; Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments. However, the effects of adjacent receiver components, or replace picture tube or deflection yoke may require the need to readjust purity and convergence. If adjustment is required the adjustments should be made in the following sequence.

PURITY ADJUSTMENT

1. Place the picture tube face north or south and demagnetize the picture tube and receiver using an external degaussing coil. When replacing picture tube or deflection yoke, mount deflection yoke and purity-convergence magnets assembly properly, see figure 1.
2. Turn Red and Blue guns off to provide only Green raster by rotating Red and Blue Bias controls fully counterclockwise. Slowly rotate Green Bias control clockwise to produce Green raster.
3. Loosen the screw holding the Deflection Yoke and slide the Deflection Yoke backward as far as possible, and remove the 3 D.Y. spacers.
4. Rotate the spread the Tabs of the two Purity Magnets to centre the vertical green belt in the picture screen. The Purity Magnets are also adjusted to obtain vertical centering of the raster.
5. Slowly slide the Deflection Yoke forward until a uniform green screen is obtained.
6. Check the purity of the red and blue screens for uniformity, turn off other colours to check this (use bias controls). Readjust the yoke position if necessary until all screens are pure.
7. Adjust each Bias control and screen control to obtain white raster. Refer to Gray Scale Adjustment. If part of the picture screen is coloured, adjust the Deflection Yoke position forward or backward slightly.
8. Fasten the screw of the Deflection Yoke. Adjust Convergence next.

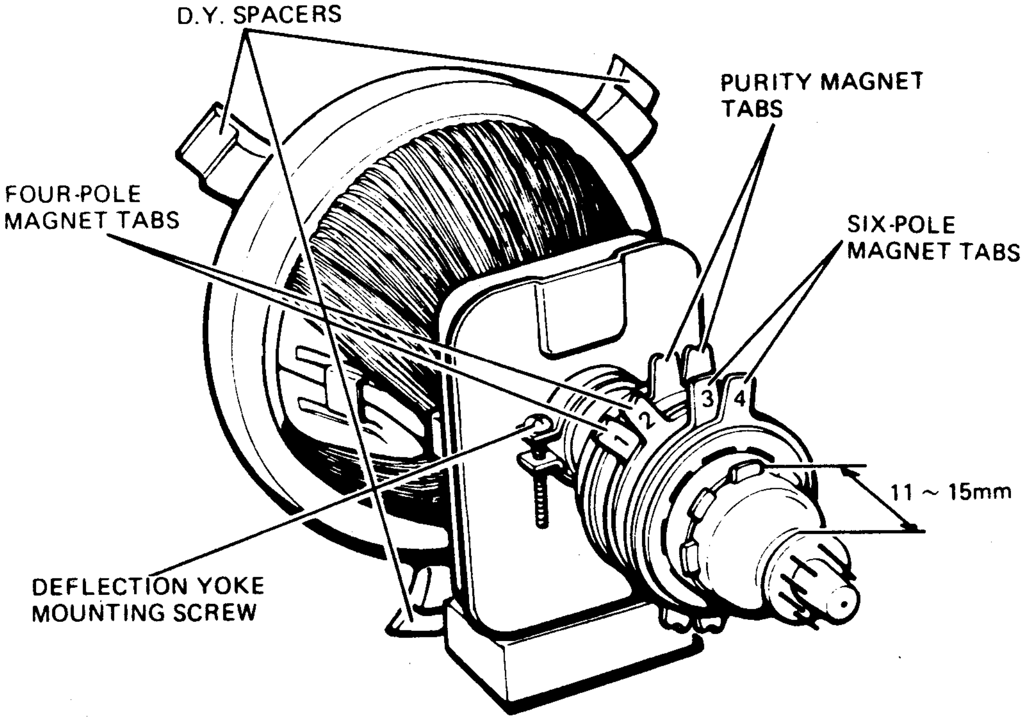
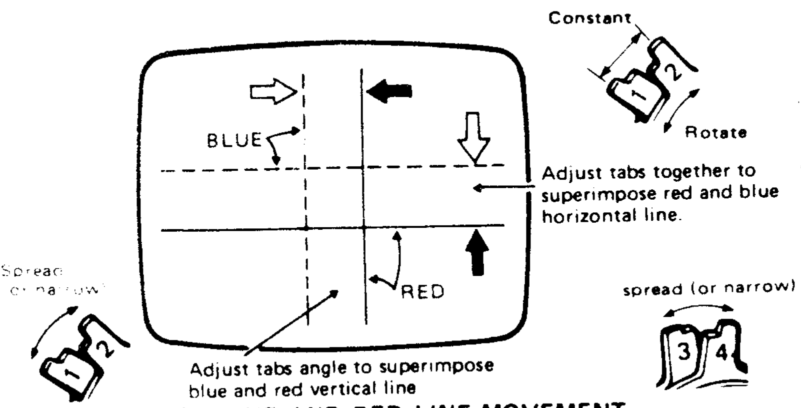


Figure 1 - PURITY AND CONVERGENCE MAGNETS

CONVERGENCE ADJUSTMENT

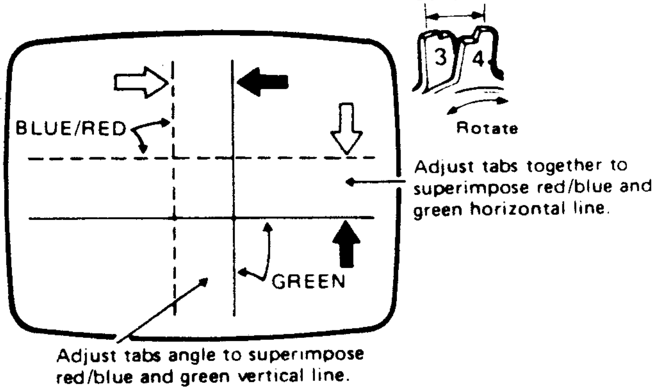
1. Use a dot-crosshatch pattern signal.
2. Turn Red and Blue guns on and turn off Green gun, refer to Purity Adjustment step 2. Adjust the angle between the Tabs of the Four Pole Magnet 1 and 2, and superimpose the Red and Blue vertical lines in the centre area of the picture screen. Refer to figure 2.
3. Keeping the mutual angle of the Tabs of the Four Pole Magnet turn them together to superimpose the Blue and Red horizontal lines in the centre area of the picture screen. Refer to figure 2.
4. Turn Green gun on and adjust Six Pole Magnet 3 and 4 so that the Green line superimposes on the Red/Blue lines. This is the same procedure used in steps 2 and 3. Refer to figure 3.


Constant
Rotate
BLUE
RED
Spread or narrow
spread (or narrow)
1
2
3
4

Adjust tabs together to superimpose red and blue horizontal line.

Adjust tabs angle to superimpose blue and red vertical line

Figure 2 - **BLUE AND RED LINE MOVEMENT**


Constant
Rotate
BLUE/RED
GREEN
3
4

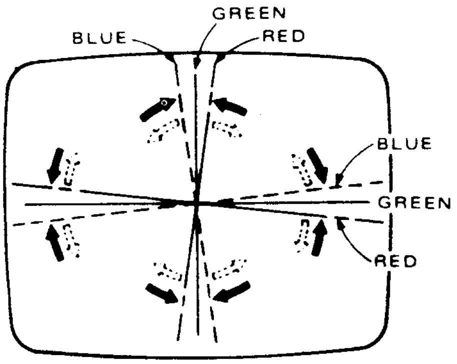
Adjust tabs together to superimpose red/blue and green horizontal line.

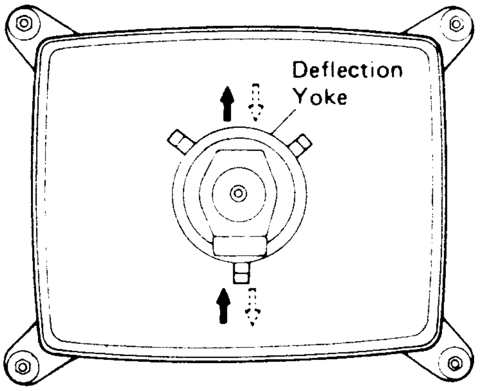
Adjust tabs angle to superimpose red/blue and green vertical line.

Figure 3 - **BLUE/RED AND GREEN LINE MOVEMENT**

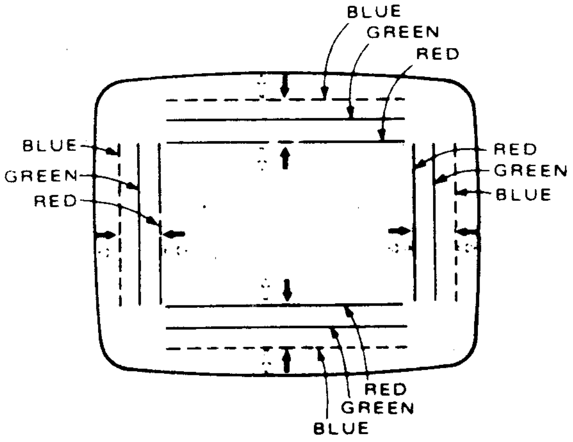
OUTER AREA CONVERGENCE

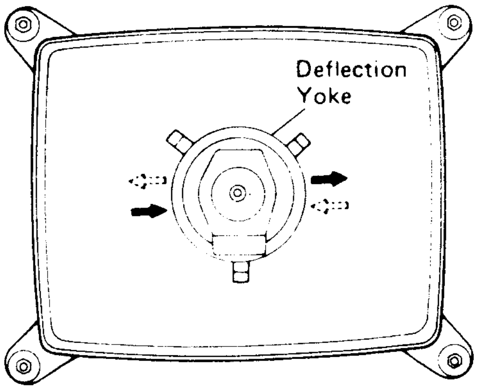
If mis-convergence on the outer area exits, as follow adjustment.


GREEN
BLUE
RED
BLUE
GREEN
RED


Deflection Yoke

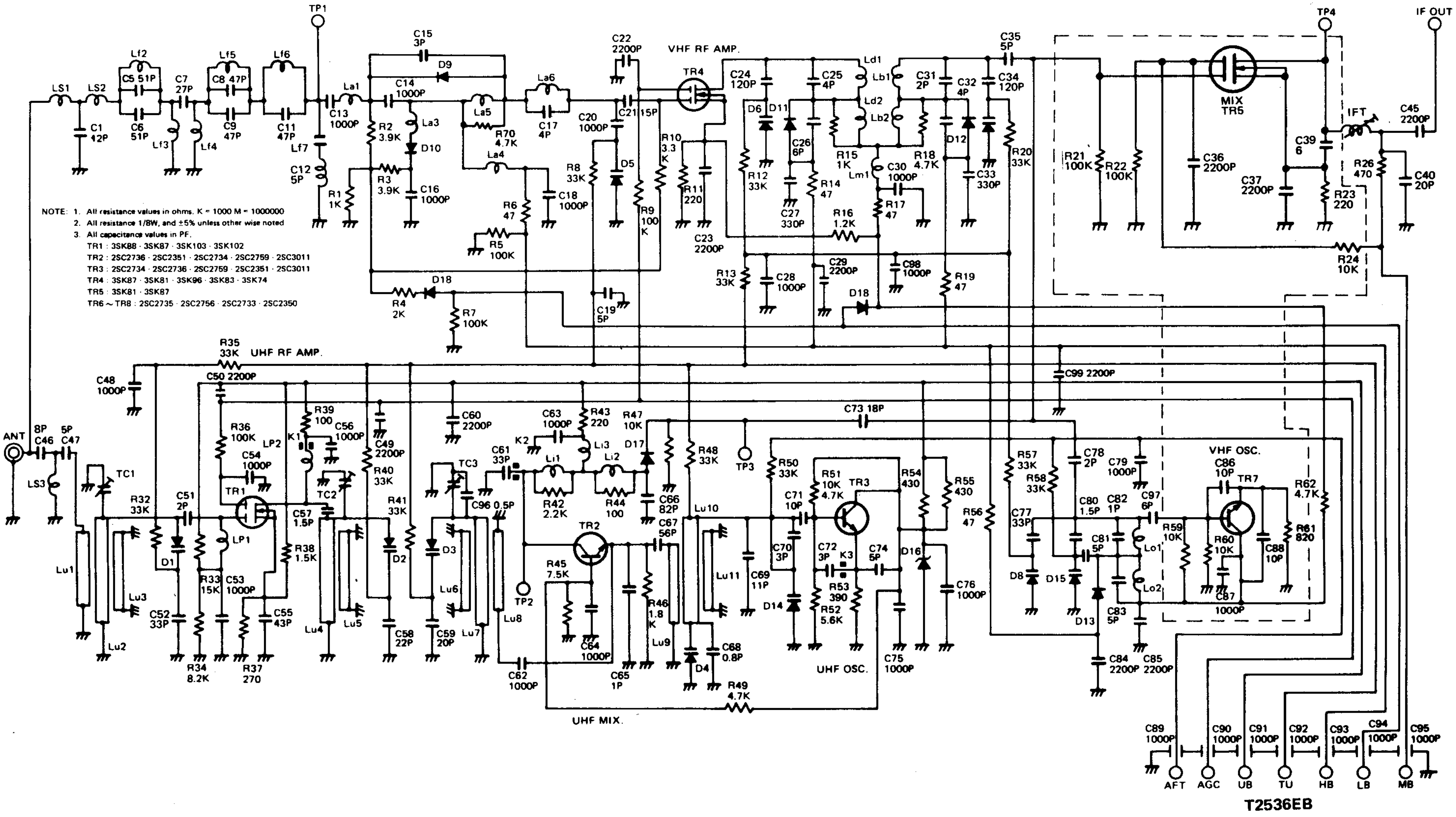
Swing the Deflection Yoke the ←direction, Red/Blue lines on the screen move the ←direction.
Swing the Deflection Yoke the ⇠direction, Red/Blue lines on the screen move the ⇠direction.


BLUE
GREEN
RED
BLUE
GREEN
RED
RED
GREEN
BLUE
RED
GREEN
BLUE


Deflection Yoke

Swing the Deflection Yoke the ←direction, Red/Blue lines on the screen move the ← direction.
Swing the Deflection Yoke the ⇠direction, Red/Blue lines on the screen move the ⇠direction.
To fasten the Deflection Yoke, Insert and fix the D.Y. spacer.

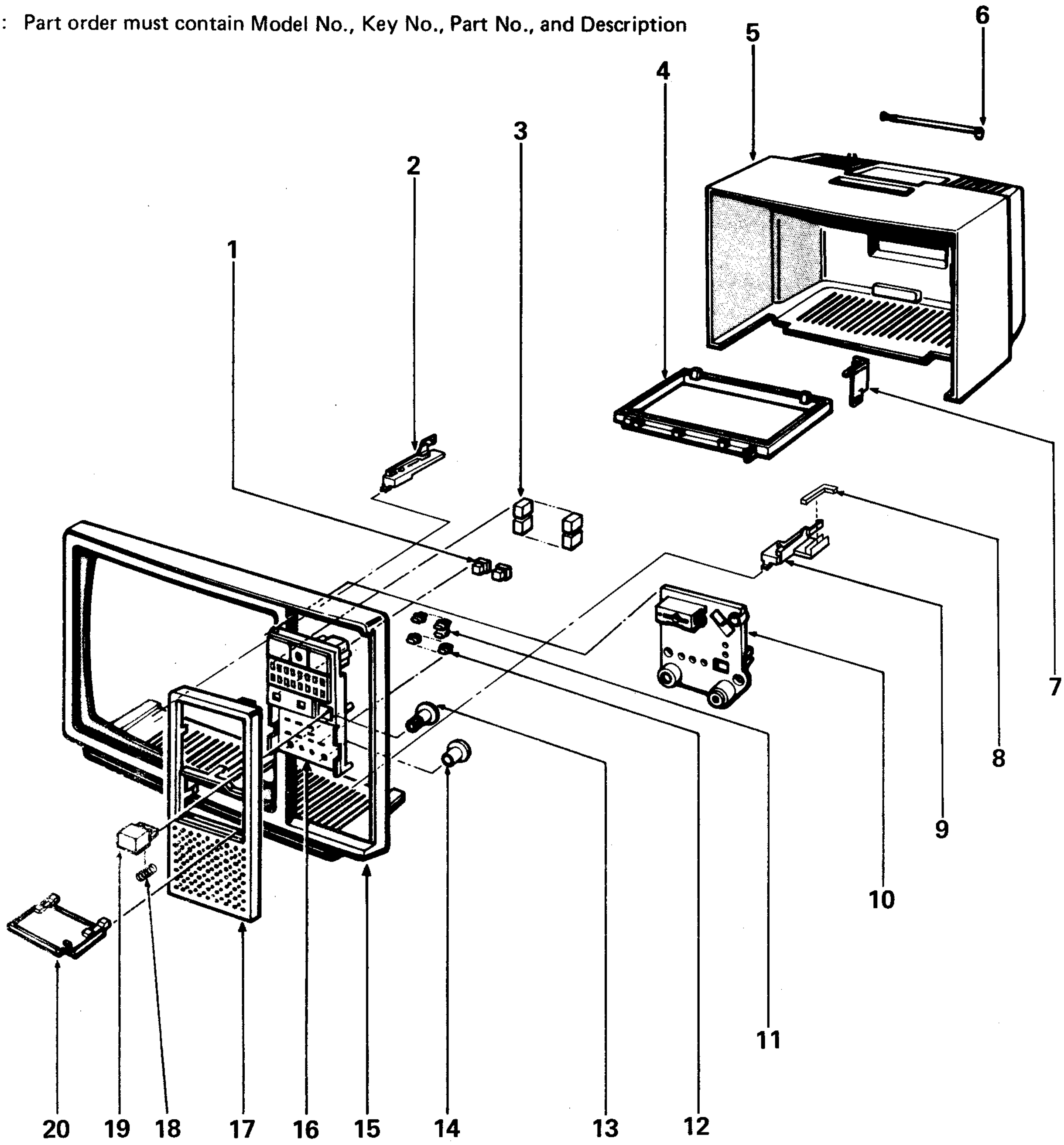
TUNER CIRCUIT DIAGRAM


TP1
TP2
TP3
TP4
IF OUT
ANT
VHF RF AMP.
TR4
MIX
TR5
IFT
UHF RF AMP.
TR1
TR2
UHF MIX.
TR3
UHF OSC.
VHF OSC.
TR7
LS1
LS2
LS3
Lf2
Lf5
Lf6
C5 51P
C8 47P
C7 27P
La1
La3
La5
La6
Ld1
Ld2
Lb1
Lb2
Lm1
Lu1
Lu2
Lu3
Lu4
Lu5
Lu6
Lu7
Lu8
Lu9
Lu10
Lu11
Lo1
Lo2
LP1
LP2
K1
K2
K3
TC1
TC2
TC3
AFT
AGC
UB
TU
HB
LB
MB
C89 1000P
C90 1000P
C91 1000P
C92 1000P
C93 1000P
C94 1000P
C95 1000P
T2536EB

NOTE: 1. All resistance values in ohms. K = 1000 M = 1000000
2. All resistance 1/8W, and ±5% unless other wise noted
3. All capacitance values in PF.
TR1 : 3SK88 · 3SK87 · 3SK103 · 3SK102
TR2 : 2SC2736 · 2SC2351 · 2SC2734 · 2SC2759 · 2SC3011
TR3 : 2SC2734 · 2SC2736 · 2SC2759 · 2SC2351 · 2SC3011
TR4 : 3SK87 · 3SK81 · 3SK96 · 3SK83 · 3SK74
TR5 : 3SK81 · 3SK87
TR6 ~ TR8 : 2SC2735 · 2SC2756 · 2SC2733 · 2SC2350

CABINET PARTS LIST

NOTE: Part order must contain Model No., Key No., Part No., and Description



Key No.	Part No.	Description	Key No.	Part No.	Description
1.	3100893	Vol. Control Buttons (2 used)	11.	3100894	Control Buttons-A (4 used)
2.	3101708	Chassis Holder (Left)	12.	3100894A	Control Buttons-B (4 used)
3.	3100892	Channel Selector Buttons (16 used)	13.	3100767	Contrast & ABC Switch Knob
4.	3101847	Main Board Holder	14.	3100115	Search Mode Switch Knob
5.	HY00354	Cabinet	15.	Y400752	Escutcheon
6.	E4522A	Rod Aerial	16.	HY00331	Front Panel-A
7.	J9703	Aerial Terminal	17.	3101206	Front Panel-B
8.	3101706	AC Cord Holder	18.	160485	Spring
9.	3101707	Chassis Holder (Right)	19.	K2099	Main Switch Button
10.	3100886	Control Bracket	20.	3100888	Door
				316174	Hinges (2 used)

CHASSIS ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE CIRCUIT DIAGRAM SHOW COMPONENTS WHOSE VALUE HAVE SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENTS REPLACEMENT POINTED OUT BY THE MARK.

NOTE: Part order must contain Model No., Ref. No., Part No. and Description

Ref. No.	Part No.	Description
U880587B (MAIN BOARD B2EW-B)		
TRANSISTORS		
Q101	Q6780Z	2SC2216
Q201	Q5102Q	2SA564(Q)
	OR Q5077F	2SA608(F)
	OR Q5102P	2SA564(P)
	OR Q5077E	2SA608(E)
Q301	Q5053G	2SC536(G)
	OR Q5053F	2SC536(F)
Q302	Q6629P	2SB774(P)
	OR Q6629Q	2SB774(Q)
	OR Q6629T	2SB774(T)
	OR Q6629S	2SB774(S)
	OR Q6629R	2SB774(R)
Q303	Q5053F	2SC536(F)
	OR Q5053G	2SC536(G)
Q304	Q6630Z	2SD841
Q430	Q5053G	2SC536(G)
	OR Q5053F	2SC536(F)
Q440	Q6613R	2SC2483(R)
	OR Q66130	2SC2483(0)
Q441	Q6614R	2SA1195(R)
	OR Q66140	2SA1195(0)
Q442	Q68030	2SC2551(0)
	OR Q6803R	2SC2551(R)
Q450	Q6541ZM	2SC2229M
	OR Q6531ZM	2SC2228M
Q451	Q6623Z	2SD868(Z)
INTEGRATED CIRCUITS		
IC101	Q7253	M51356P, VIF AMP. & SIF AMP.
IC161	Q7228	LA4220, AUDIO AMP.
IC201	Q7239	M51393P
IC401	Q7227	LA7800, DEFLECTION
CAPACITORS		
C102	CCHCJ820	CERAMIC,82PF,+-5%,50V
C105	CCHCJ560	CERAMIC,56PF,+-5%,50V
C106	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C107	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C108	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C109	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C110	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C111	CCHFK102	CERAMIC,1000PF,+-10%,50V
C112	CEDEA101	ELECTROLYTIC,100MF,16V
C113	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C114	CEHEA1R0	ELECTROLYTIC,1MF,50V
C115	CFHSK104	MYLAR FILM,0.1MF,+-10%,50V
	OR CFHRK104	MYLAR FILM,0.1MF,+-10%,50V
C116	CEHEA1R0	ELECTROLYTIC,1MF,50V
C122	CEFEA4R7	ELECTROLYTIC,4.7MF,25V
C123	CEHEA2R2	ELECTROLYTIC,2.2MF,50V
C124	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C125	CEHEA1R0	ELECTROLYTIC,1MF,50V
C126	CFHSK104	MYLAR FILM,0.1MF,+-10%,50V
	OR CFHRK104	MYLAR FILM,0.1MF,+-10%,50V
C127	CEFEA4R7	ELECTROLYTIC,4.7MF,25V
C131	CCHBJ560	CERAMIC,56PF,+-5%,50V
C132	CCHCJ820	CERAMIC,82PF,+-5%,50V
C134	CCHBJ120	CERAMIC,12PF,+-5%,50V
C136	CCHDJ101	CERAMIC,100PF,+-5%,50V
C151	CEDEA471	ELECTROLYTIC,470MF,16V
C152	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C153	CFHRK682	MYLAR FILM,6800PF,+-10%,50V
	OR CFHSK682	MYLAR FILM,6800PF,+-10%,50V
C154	CCHJP472	CERAMIC,4700PF,+100%-0%,50V
C155	CCHBJ220	CERAMIC,22PF,+-5%,50V
C156	CCHBJ680	CERAMIC,68PF,+-5%,50V
C157	CFHRK472	MYLAR FILM,4700PF,+-10%,50V
	OR CFHSK472	MYLAR FILM,4700PF,+-10%,50V
C158	CEHANR47	NON-POLARIZED ELECTROLYTIC,0.47MF,50V

Ref. No.	Part No.	Description
C159	CEHEA1R0	ELECTROLYTIC,1MF,50V
C161	CEDEA221	ELECTROLYTIC,220MF,16V
C162	CEFEA330	ELECTROLYTIC,33MF,25V
C163	CCHAK101	CERAMIC,100PF,+-10%,50V
C164	CFHSK103	MYLAR FILM,0.01MF,+-10%,50V
	OR CFHRK103	MYLAR FILM,0.01MF,+-10%,50V
C165	CEFEA470	ELECTROLYTIC,47MF,25V
C166	CEDEA471	ELECTROLYTIC,470MF,16V
C167	CFHRK154	MYLAR FILM,0.15MF,+-10%,50V
	OR CFHSK154	MYLAR FILM,0.15MF,+-10%,50V
C168	CEFEA4R7	ELECTROLYTIC,4.7MF,25V
C171	CFHRK562	MYLAR FILM,5600PF,+-10%,50V
	OR CFHSK562	MYLAR FILM,5600PF,+-10%,50V
C172	CEDEA220	ELECTROLYTIC,22MF,16V
C174	CEDEA101	ELECTROLYTIC,100MF,16V
C175	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C201	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C202	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C203	CEHEA1R0	ELECTROLYTIC,1MF,50V
C204	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C205	CCHBJ680	CERAMIC,68PF,+-5%,50V
C206	CCHBJ120	CERAMIC,12PF,+-5%,50V
C207	CCHBJ560	CERAMIC,56PF,+-5%,50V
C211	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C212	CCHBJ150	CERAMIC,15PF,+-5%,50V
C213	CCHBJ150	CERAMIC,15PF,+-5%,50V
C214	CEDEA100	ELECTROLYTIC,10MF,16V
C216	CCHBC3R0	CERAMIC,3PF,+-0.25PF,50V
C217	CEBEA470	ELECTROLYTIC,47MF,10V
C218	CEHEA1R0	ELECTROLYTIC,1MF,50V
C221	CEHEA2R2	ELECTROLYTIC,2.2MF,50V
C230	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C231	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C232	CCHBJ820	CERAMIC,82PF,+-5%,50V
C233	CEFEA3R3	ELECTROLYTIC,3.3MF,25V
C235	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C236	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C237	CCHBJ101	CERAMIC,100PF,+-5%,50V
C238	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C239	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C240	CFHBK105	MYLAR FILM,1MF,+-10%,50V
	OR CFHBJ105	MYLAR FILM,1MF,+-5%,50V
C241	CFHSK223	MYLAR FILM,0.022MF,+-10%,50V
	OR CFHRK223	MYLAR FILM,0.022MF,+-10%,50V
C244	CEHEAR47	ELECTROLYTIC,0.47MF,50V
C245	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C246	CCHBJ151	CERAMIC,150PF,+-5%,50V
C247	CCHBJ390	CERAMIC,39PF,+-5%,50V
C248	CCHBJ470	CERAMIC,47PF,+-5%,50V
C249	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
⚠C301	CFUBM564	MYLAR FILM,0.56MF,+-20%,630V
C304	CCVGM102	CERAMIC,1000PF,+-20%,1KV
C308	C71739A	ELECTROLYTIC,100MF,400V
C310	CFHRK333	MYLAR FILM,0.033MF,+-10%,50V
	OR CFHSK333	MYLAR FILM,0.033MF,+-10%,50V
C312	CEGEA100	ELECTROLYTIC,10MF,35V
C313	CFHSK104	MYLAR FILM,0.1MF,+-10%,50V
	OR CFHRK104	MYLAR FILM,0.1MF,+-10%,50V
C314	CEFBA470	ELECTROLYTIC,47MF,25V
C315	CCZVK152	CERAMIC,1500PF,+-10%,2KV
	OR CCZWK152	CERAMIC,1500PF,+-10%,2KV
⚠C317.	CCQYM222	CERAMIC,2200PF,+-20%,400V
C320	CCVGM222	CERAMIC,2200PF,+-20%,1KV
C321	C72189A	ELECTROLYTIC,47MF,160V
C322	CEFEA102	ELECTROLYTIC,1000MF,25V
C323	CCVJP472	CERAMIC,4700PF,+100%-0%,1KV
C401	CTFEK105	ELECTROLYTIC,1MF,+-10%,25V
C402	CFHSK103	MYLAR FILM,0.01MF,+-10%,50V
	OR CFHRK103	MYLAR FILM,0.01MF,+-10%,50V
C403	CFHRK683	MYLAR FILM,0.068MF,+-10%,50V
	OR CFHSK683	MYLAR FILM,0.068MF,+-10%,50V
C404	CEFEA4R7	ELECTROLYTIC,4.7MF,25V
C405	CCHFK821	CERAMIC,820PF,+-10%,50V
C406	CEDEA101	ELECTROLYTIC,100MF,16V
C407	CFHRK683	MYLAR FILM,0.068MF,+-10%,50V
	OR CFHSK683	MYLAR FILM,0.068MF,+-10%,50V
C408	CFHRK473	MYLAR FILM,0.047MF,+-10%,50V
	OR CFHSK473	MYLAR FILM,0.047MF,+-10%,50V
C409	CCSAK101	CERAMIC,100PF,+-10%,500V
C410	CEHEA1R0	ELECTROLYTIC,1MF,50V
C411	CFHSK103	MYLAR FILM,0.01MF,+-10%,50V
	OR CFHRK103	MYLAR FILM,0.01MF,+-10%,50V
C412	C9212	MYLAR FILM,5600PF,+-5%,50V
C420	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C422	CEFAN1R0	NON-POLARIZED ELECTROLYTIC,1MF,25V
C431	CCHCJ121	CERAMIC,120PF,+-5%,50V
C432	CCSAK820	CERAMIC,82PF,+-10%,500V
C440	C7201	ELECTROLYTIC,4.7MF,250V
C441	CCHFK472	CERAMIC,4700PF,+-10%,50V
C442	CNLRK333	POLYPROPYLENE,0.033MF,+-10%,200V
C443	CFHSJ223	MYLAR FILM,0.022MF,+-5%,50V
	OR CFHRJ223	MYLAR FILM,0.022MF,+-5%,50V
C444	CTDEK225	ELECTROLYTIC,2.2MF,+-10%,16V
C445	CEHEA471	ELECTROLYTIC,470MF,50V
C446	CEHEAR47	ELECTROLYTIC,0.47MF,50V
C447	CEHEA100	ELECTROLYTIC,10MF,50V
C448	CCSFK561	CERAMIC,560PF,+-10%,500V
C450	CCSFK102	CERAMIC,1000PF,+-10%,500V
C451	CEKEA4R7	ELECTROLYTIC,4.7MF,160V
⚠C452	CC1VJ471	CERAMIC,470PF,+-5%,3KV

Ref. No.	Part No.	Description
	OR CC1WJ471	CERAMIC,470PF,+-5%,3KV
⚠C453	CC1VJ471	CERAMIC,470PF,+-5%,3KV
	OR CC1WJ471	CERAMIC,470PF,+-5%,3KV
⚠C454	CN9RJ682	POLYPROPYLENE,6800PF,+-5%,1600V
	OR CNZDJ682	POLYPROPYLENE,6800PF,+-5%,2KV
	OR CN9BJ682	POLYPROPYLENE,6800PF,+-5%,1600V
C455	CCSFK331	CERAMIC,330PF,+-10%,500V
C460	CEKEA330	ELECTROLYTIC,33MF,160V
C461	CFMBJ394	MYLAR FILM,0.39MF,+-5%,250V
C462	CEHEA101	ELECTROLYTIC,100MF,50V
C463	CEFEA102	ELECTROLYTIC,1000MF,25V
C464	CEMEA100	ELECTROLYTIC,10MF,250V
C465	CEFEA100	ELECTROLYTIC,10MF,25V
C466	CNZDJ472	POLYPROPYLENE,4700PF,+-5%,2KV
	OR CN9BJ472	POLYPROPYLENE,4700PF,+-5%,1600V
	OR CN9RJ472	POLYPROPYLENE,4700PF,+-5%,1600V
C467	CEDEA471	ELECTROLYTIC,470MF,16V
C468	CCSFK471	CERAMIC,470PF,+-10%,500V
C469	CCHFK471	CERAMIC,470PF,+-10%,50V
C470	CFMBJ823	MYLAR FILM,0.082MF,+-5%,250V
C471	CEHEA1R0	ELECTROLYTIC,1MF,50V
RESISTORS		
R101	RFACJ122	CARBON,1200 OHM,+-5%,1/4W
R102	RFACJ562	CARBON,5600 OHM,+-5%,1/4W
R105	RFACJ560	CARBON,56 OHM,+-5%,1/4W
R107	RFACJ271	CARBON,270 OHM,+-5%,1/4W
R108	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R109	RFACJ332	CARBON,3300 OHM,+-5%,1/4W
R110	RFACJ391	CARBON,390 OHM,+-5%,1/4W
R121	RFACJ153	CARBON,15K OHM,+-5%,1/4W
R122	RFACJ473	CARBON,47K OHM,+-5%,1/4W
R123	RFACJ184	CARBON,180K OHM,+-5%,1/4W
⚠R124	RNBPJ181	METALIZED CARBON,180 OHM,+-5%,1/2W
⚠R125	RNBPJ270	METALIZED CARBON,27 OHM,+-5%,1/2W
R131	RFACJ182	CARBON,1800 OHM,+-5%,1/4W
R132	RFACJ181	CARBON,180 OHM,+-5%,1/4W
R133	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R134	RFACJ272	CARBON,2700 OHM,+-5%,1/4W
R137	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R150	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R152	RFACJ221	CARBON,220 OHM,+-5%,1/4W
R153	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R156	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R157	RFACJ332	CARBON,3300 OHM,+-5%,1/4W
R158	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R160	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R161	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R162	RFACJ683	CARBON,68K OHM,+-5%,1/4W
R170	RFACJ393	CARBON,39K OHM,+-5%,1/4W
R190	RR2FJ270	OXIDE METALIZED,27 OHM,+-5%,2W
R200	RFACJ393	CARBON,39K OHM,+-5%,1/4W
R201	RFACJ272	CARBON,2700 OHM,+-5%,1/4W
R203	RFACJ392	CARBON,3900 OHM,+-5%,1/4W
R204	RFACJ122	CARBON,1200 OHM,+-5%,1/4W
R205	RFACJ391	CARBON,390 OHM,+-5%,1/4W
R208	RFACJ333	CARBON,33K OHM,+-5%,1/4W
R209	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R210	RFACJ152	CARBON,1500 OHM,+-5%,1/4W
R211	RFACJ152	CARBON,1500 OHM,+-5%,1/4W
R213	RFACJ471	CARBON,470 OHM,+-5%,1/4W
R217	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R218	RFACJ224	CARBON,220K OHM,+-5%,1/4W
R221	RFACJ470	CARBON,47 OHM,+-5%,1/4W
R222	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R231	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R233	RFACJ152	CARBON,1500 OHM,+-5%,1/4W
R234	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R235	RFACJ333	CARBON,33K OHM,+-5%,1/4W
R236	RFACJ563	CARBON,56K OHM,+-5%,1/4W
R237	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R238	RFACJ332	CARBON,3300 OHM,+-5%,1/4W
R239	RFACJ332	CARBON,3300 OHM,+-5%,1/4W
R240	RFACJ332	CARBON,3300 OHM,+-5%,1/4W
R242	RFACJ681	CARBON,680 OHM,+-5%,1/4W
R243	RFACJ681	CARBON,680 OHM,+-5%,1/4W
R244	RFACJ225	CARBON,2200K OHM,+-5%,1/4W
R247	RFACJ561	CARBON,560 OHM,+-5%,1/4W
R248	RFACJ471	CARBON,470 OHM,+-5%,1/4W
R252	RFACJ334	CARBON,330K OHM,+-5%,1/4W
R255	RFACJ122	CARBON,1200 OHM,+-5%,1/4W
R301	RY6ZK6R8	WIRE WOUND,6.8 OHM,+-10%,6W
	OR RY6WK6R8	WIRE WOUND,6.8 OHM,+-10%,6W
R302	RFBPJ394	CARBON,390K OHM,+-5%,1/2W
⚠R304	RFACG682	CARBON,6800 OHM,+-2%,1/4W
⚠R305	RFACG332	CARBON,3300 OHM,+-2%,1/4W
R306	RFACJ182	CARBON,1800 OHM,+-5%,1/4W
R307	RFACJ822	CARBON,8200 OHM,+-5%,1/4W
R308	RFACJ123	CARBON,12K OHM,+-5%,1/4W
R309	RFACJ822	CARBON,8200 OHM,+-5%,1/4W
R310	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R311	RFACJ120	CARBON,12 OHM,+-5%,1/4W
R312	RFACJ331	CARBON,330 OHM,+-5%,1/4W
R313	RY2PJ2R7	WIRE WOUND,2.7 OHM,+-5%,2W
R314	RR2FJ270	OXIDE METALIZED,27 OHM,+-5%,2W
R315	RY6WK390	WIRE WOUND,39 OHM,+-10%,6W
	OR RY6ZK390	WIRE WOUND,39 OHM,+-10%,6W
⚠R316	RCBEK565	SOLID,5600K OHM,+-10%,1/2W
⚠R317	RCBEK565	SOLID,5600K OHM,+-10%,1/2W
R318	RY2PKR33	WIRE WOUND,0.33 OHM,+-10%,2W
R320	RR1FJ102	OXIDE METALIZED,1K OHM,+-5%,1W
R321	RR2FJ120	OXIDE METALIZED,12 OHM,+-5%,2W
R401	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R402	RFACJ124	CARBON,120K OHM,+-5%,1/4W
R403	RFACJ123	CARBON,12K OHM,+-5%,1/4W
R404	RFACJ222	CARBON,2200 OHM,+-5%,1/4W
R405	RFACJ154	CARBON,150K OHM,+-5%,1/4W
R406	RFACJ471	CARBON,470 OHM,+-5%,1/4W
R407	RFACJ682	CARBON,6800 OHM,+-5%,1/4W
R408	RFACJ123	CARBON,12K OHM,+-5%,1/4W
R409	RFACJ473	CARBON,47K OHM,+-5%,1/4W
R410	RR2FJ682	OXIDE METALIZED,6800 OHM,+-5%,2W
R411	RFACJ183	CARBON,18K OHM,+-5%,1/4W

Ref. No.	Part No.	Description
R412	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R420	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R422	RFACJ101	CARBON,100 OHM,+-5%,1/4W
R424	RR1FJ562	OXIDE METALIZED,5600 OHM,+-5%,1W
R431	RFACJ153	CARBON,15K OHM,+-5%,1/4W
R432	RFACJ562	CARBON,5600 OHM,+-5%,1/4W
R433	RFACJ562	CARBON,5600 OHM,+-5%,1/4W
R434	RFACJ154	CARBON,150K OHM,+-5%,1/4W
R435	RFACJ333	CARBON,33K OHM,+-5%,1/4W
R440	RR3ZJ272	OXIDE METALIZED,2700 OHM,+-5%,3W
	OR RR3HJ272	OXIDE METALIZED,2700 OHM,+-5%,3W
R441	RR1FJ103	OXIDE METALIZED,10K OHM,+-5%,1W
R443	RFACJ683	CARBON,68K OHM,+-5%,1/4W
R444	RFACJ681	CARBON,680 OHM,+-5%,1/4W
R445	RFBPJ5R6	CARBON,5.6 OHM,+-5%,1/2W
R446	RR1FJ392	OXIDE METALIZED,3900 OHM,+-5%,1W
R447	RFACJ393	CARBON,39K OHM,+-5%,1/4W
R448	RFACJ563	CARBON,56K OHM,+-5%,1/4W
R449	RFACJ221	CARBON,220 OHM,+-5%,1/4W
R450	RFACJ331	CARBON,330 OHM,+-5%,1/4W
R451	RFACJ272	CARBON,2700 OHM,+-5%,1/4W
R452	RR2FJ272	OXIDE METALIZED,2700 OHM,+-5%,2W
R453	RFACJ4R7	CARBON,4.7 OHM,+-5%,1/4W
R460	RY6WK5R6	WIRE WOUND,5.6 OHM,+-10%,6W
	OR RY6ZK5R6	WIRE WOUND,5.6 OHM,+-10%,6W
⚠R461	RNBPJ102	METALIZED CARBON,1K OHM,+-5%,1/2W
⚠R462	RNBPJ2R2	METALIZED CARBON,2.2 OHM,+-5%,1/2W
⚠R463	RN1PJ2R2	METALIZED CARBON,2.2 OHM,+-5%,1W
⚠R464	RNBPJ100	METALIZED CARBON,10 OHM,+-5%,1/2W
R465	RF2EJ225	CARBON,2200K OHM,+-5%,2W
R466	RFACJ221	CARBON,220 OHM,+-5%,1/4W
R467	RFACJ334	CARBON,330K OHM,+-5%,1/4W
⚠R471	RN1PJ181	METALIZED CARBON,180 OHM,+-5%,1W
VARIABLE RESISTORS		
VR101	G0096XXT	5K OHM, B
VR210	G0122XXT	100K OHM, B
VR230	G0118	30K OHM, B
VR240	G0249XXT	3K OHM, B
⚠VR301	G0232XDT	1K OHM, B
	OR G0232XDM	1K OHM, B
VR410	G0151	5K OHM, B
VR440	G0228XXB	20K OHM, B
	OR G0228XXM	20K OHM, B
TRANSFORMERS		
T101	S8161	VIF MATCHING
T131	S8141	VIDEO DET.
T132	S8931	AFT
T133	S8587	VIDEO IF
T151	S9057	SIF DET.
T230	S3832	PHASE
T231	S5036	MATCHING
⚠T301	A5069	CONVERTER
T450	A5050	DRIVE

Ref. No.	Part No.	Description
⚠T460	F1156	FLYBACK
COILS		
L101	LPAJ560	PEAKING, 56UH
L102	LPAJ8R2	PEAKING, 8.2UH
L103	LPAJ8R2	PEAKING, 8.2UH
L104	LPAJ8R2	PEAKING, 8.2UH
L105	LPAJ8R2	PEAKING, 8.2UH
L107	LPAJ150	PEAKING, 15UH
L108	L7384	FILTER
L131	LPAJ150	PEAKING, 15UH
L201	LPAJ181	PEAKING, 180UH
L202	LPAJ5R6	PEAKING, 5.6UH
L210	L7346	DELAY LINE
L230	LPAJ220	PEAKING, 22UH
L231	L7309	1H DELAY LINE
L232	LPAJ8R2	PEAKING, 8.2UH
L233	LPAJ820	PEAKING, 82UH
L235	LPAJ5R6	PEAKING, 5.6UH
L236	LPAJ470	PEAKING, 47UH
L238	LPAJ100	PEAKING, 10UH
L239	LPAJ100	PEAKING, 10UH
L240	LPAJ100	PEAKING, 10UH
⚠L302	L321	LINE FILTER
L320	L4082	INDUCTOR, 39MH
L450	L7133B	FILTER, 3.3UH
	OR L7133A	FILTER, 3.3UH
	OR L7133	FILTER, 3.3UH
L460	A7028	LINEARITY
L461	L4084	INDUCTOR, 1.8MH
DIODES		
D101	E1216ZG	EQB01-12, ZENER, 12V
D102	E1121R	1S1555
	OR E1229R	1S2473
	OR E1324R	1S2076
D103	E1324R	1S2076
	OR E1229R	1S2473
	OR E1121R	1S1555
D171	E1121R	1S1555
D210	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D211	E1205ZA	EQA01-06, 6V, ZENER
D213	E1121R	1S1555
	OR E1324R	1S2076
	OR E1229R	1S2473
D230	E1216ZG	EQB01-12, ZENER, 12V
D231	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D301	E1449R	RM2C
	OR E1450R	ERC04-10
⚠D305	E1501ZA	EQA01-08RG, ZENER, 8V
D306	E1314R	ERB28-04

Ref. No.	Part No.	Description
	OR E1338R	RU-1
D307	E1264R	1S2095A
D308	E1264R	1S2095A
D309	E1738ZR	EQA01-09R, ZENER, 9V
D320	E1432R	UF-3N
D321	E1339R	RU2
	OR E1412R	ERC24-04M
D430	E1121R	1S1555
D431	E1324R	1S2076
	OR E1121R	1S1555
	OR E1229R	1S2473
D432	E1205ZA	EQA01-06, 6V, ZENER
D440	E1442R	S5277B
D441	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D442	E1121R	1S1555
D443	E1031RT	1S188TV
D444	E1031RT	1S188TV
D460	E1339R	RU2
	OR E1412R	ERC24-04M
D461	E1412R	ERC24-04M
	OR E1339R	RU2
D462	E1339R	RU2
	OR E1412R	ERC24-04M
MISCELLANEOUS		
⚠ F301	E5062	FUSE, 0.8A
F301A	E5740	FUSE CLIP
F301B	E5740	FUSE CLIP
IC101A	E3270	IC SOCKET, 30PIN
IC201A	E3270	IC SOCKET, 30PIN
IC401A	E3112	IC SOCKET, 16PIN
⚠ FO&SC-VR	R0155XH	FOCUS RESISTOR
	OR R0155XS	FOCUS RESISTOR
HS2	2700058	RADIATOR
MUTE	E6052	HOUSING, 2P
PS301	E1407P	POSISTOR, PTH451A
Q304A	E4633	INSULATION SHEET
Q304D1	E4635	SPACER, INSULATION
Q451A	E4606	SHEET, INSULATION
Q451D2	E4635	SPACER, INSULATION
Q451E	Z2003	PIPE CORE
Q451G	322224	SHEET, INSULATION
SV	E6052	HOUSING, 2P
TUNER	T2536EB	ALL CHANNEL TUNER
VC	E6051	HOUSING, 1P
VC201	C9026	TRIMMER CAPACITOR
WF01	E3160	TERMINAL SOCKET FOR FOCUS BLOCK
X101	E8335	SAW FILTER
X131	E8313	5.5MHZ TRAP, CERAMIC FILTER
X151	E8314	5.5MHZ FILTER, CERAMIC FILTER
X201	E8332A	CRYSTAL, 4.43MHZ
	OR E8332	CRYSTAL, 4.43MHZ OSC.
X202	E8318	4.43MHZ TRAP, CERAMIC FILTER

Ref. No.	Part No.	Description
U880617B (RC TUNING BOARD B2GW-B)		
TRANSISTORS		
Q721	Q6562Y	2SA1015(Y)
	OR Q6562G	2SA1015(G)
	OR Q65620	2SA1015(0)
	OR Q5102P	2SA564(P)
	OR Q5102Q	2SA564(Q)
	OR Q5102R	2SA564(R)
	OR Q5077F	2SA608(F)
	OR Q5077E	2SA608(E)
Q722	Q5077E	2SA608(E)
	OR Q5102R	2SA564(R)
	OR Q6562Y	2SA1015(Y)
	OR Q65620	2SA1015(0)
	OR Q6562G	2SA1015(G)
	OR Q5102Q	2SA564(Q)
	OR Q5102P	2SA564(P)
	OR Q5077F	2SA608(F)
Q723	Q5077F	2SA608(F)
	OR Q5102P	2SA564(P)
	OR Q6562Y	2SA1015(Y)
	OR Q6562G	2SA1015(G)
	OR Q65620	2SA1015(0)
	OR Q5102R	2SA564(R)
	OR Q5102Q	2SA564(Q)
	OR Q5077E	2SA608(E)
Q724	Q5183P	2SC945A(P)
	OR Q5183R	2SC945A(R)
	OR Q5183Q	2SC945A(Q)
	OR Q5053E	2SC536(E)
	OR Q5053G	2SC536(G)
	OR Q5053F	2SC536(F)
Q725	Q5053F	2SC536(F)
	OR Q5183Q	2SC945A(Q)
	OR Q5183R	2SC945A(R)
	OR Q5183P	2SC945A(P)
	OR Q5053G	2SC536(G)
	OR Q5053E	2SC536(E)
Q726	Q5053E	2SC536(E)
	OR Q5183P	2SC945A(P)
	OR Q5183R	2SC945A(R)
	OR Q5183Q	2SC945A(Q)
	OR Q5053G	2SC536(G)
	OR Q5053F	2SC536(F)
Q791	Q5053F	2SC536(F)
	OR Q5183Q	2SC945A(Q)
	OR Q5183R	2SC945A(R)
	OR Q5183P	2SC945A(P)
	OR Q5053G	2SC536(G)
	OR Q5053E	2SC536(E)
Q811	Q5053G	2SC536(G)

Ref. No.	Part No.	Description
	OR Q5183P	2SC945A(P)
	OR Q5183R	2SC945A(R)
	OR Q5183Q	2SC945A(Q)
	OR Q5053F	2SC536(F)
	OR Q5053E	2SC536(E)
Q831	Q6780Z	2SC2216
Q832	Q5102Q	2SA564(Q)
	OR Q6562Y	2SA1015(Y)
	OR Q5102R	2SA564(R)
	OR Q65620	2SA1015(0)
	OR Q6562G	2SA1015(G)
	OR Q5102P	2SA564(P)
	OR Q5077E	2SA608(E)
	OR Q5077F	2SA608(F)
Q833	Q5077E	2SA608(E)
	OR Q5102P	2SA564(P)
	OR Q6562Y	2SA1015(Y)
	OR Q5102R	2SA564(R)
	OR Q65620	2SA1015(0)
	OR Q6562G	2SA1015(G)
	OR Q5102Q	2SA564(Q)
	OR Q5077F	2SA608(F)
Q871	Q5183R	2SC945A(R)
	OR Q5183Q	2SC945A(Q)
	OR Q5183P	2SC945A(P)
	OR Q5053E	2SC536(E)
	OR Q5053G	2SC536(G)
	OR Q5053F	2SC536(F)
Q872	Q5053F	2SC536(F)
	OR Q5183P	2SC945A(P)
	OR Q5183R	2SC945A(R)
	OR Q5183Q	2SC945A(Q)
	OR Q5053G	2SC536(G)
	OR Q5053E	2SC536(E)
Q876	Q5077E	2SA608(E)
	OR Q5077F	2SA608(F)
	OR Q6562Y	2SA1015(Y)
	OR Q6562G	2SA1015(G)
	OR Q65620	2SA1015(0)
	OR Q5102R	2SA564(R)
	OR Q5102Q	2SA564(Q)
	OR Q5102P	2SA564(P)

INTEGRATED CIRCUITS

Ref. No.	Part No.	Description
IC721	Q7184	M58485P, REMOTE CONTROL
IC791	Q7204	M5G1400P
IC831	Q7203	M51251P
IC871	Q7241	M58486AP, SYSTEM CONTROL
IC891	Q7256	LA7910, TUNER BAND SWITCH

CAPACITORS

Ref. No.	Part No.	Description
C721	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C722	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C723	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C725	CCHBJ101	CERAMIC,100PF,+-5%,50V
C726	CCHBJ101	CERAMIC,100PF,+-5%,50V
C727	CEHEA1R0	ELECTROLYTIC,1MF,50V
C728	CEDEA100	ELECTROLYTIC,10MF,16V
C729	CEDEA220	ELECTROLYTIC,22MF,16V
C730	CEDEA100	ELECTROLYTIC,10MF,16V
C731	CEFEA101	ELECTROLYTIC,100MF,25V
C732	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C733	CEDEA220	ELECTROLYTIC,22MF,16V
C734	CEHEAR47	ELECTROLYTIC,0.47MF,50V
C791	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C792	CEHEA100	ELECTROLYTIC,10MF,50V
C793	CEHEAR47	ELECTROLYTIC,0.47MF,50V
C811	CEHEA100	ELECTROLYTIC,10MF,50V
C812	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C813	CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
	OR CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
C814	C7209	ELECTROLYTIC,470MF,35V
C816	CEFAN100	NON-POLARIZED ELECTROLYTIC,10MF,25V
C817	CEHEA4R7	ELECTROLYTIC,4.7MF,50V
C831	CEHEA100	ELECTROLYTIC,10MF,50V
C832	CCSJP102	CERAMIC,1000PF,+100%-0%,500V
C833	CEHEA3R3	ELECTROLYTIC,3.3MF,50V
C834	CFHRK333	MYLAR FILM,0.033MF,+-10%,50V
	OR CFHSK333	MYLAR FILM,0.033MF,+-10%,50V
C835	CFHSK102	MYLAR FILM,1000PF,+-10%,50V
	OR CFHRK102	MYLAR FILM,1000PF,+-10%,50V
C836	CEHEA1R0	ELECTROLYTIC,1MF,50V
C837	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C838	CEHEA1R0	ELECTROLYTIC,1MF,50V
C839	CFHRK104	MYLAR FILM,0.1MF,+-10%,50V
	OR CFHSK104	MYLAR FILM,0.1MF,+-10%,50V
C840	CCHCJ101	CERAMIC,100PF,+-5%,50V
C841	CFHRK104	MYLAR FILM,0.1MF,+-10%,50V
	OR CFHSK104	MYLAR FILM,0.1MF,+-10%,50V
C842	CCHBJ181	CERAMIC,180PF,+-5%,50V
C871	CEHEAR47	ELECTROLYTIC,0.47MF,50V
C872	CEDEA100	ELECTROLYTIC,10MF,16V
C873	CFHRK123	MYLAR FILM,0.012MF,+-10%,50V
	OR CFHSK123	MYLAR FILM,0.012MF,+-10%,50V
C874	CEBEA221	ELECTROLYTIC,220MF,10V
C875	CCHJZ103	CERAMIC,0.01MF,+80%-20%,50V
	OR CCHJP103	CERAMIC,0.01MF,+100%-0%,50V
C876	CEFEA101	ELECTROLYTIC,100MF,25V
C877	CCHFK471	CERAMIC,470PF,+-10%,50V
C878	CCHFK471	CERAMIC,470PF,+-10%,50V

RESISTORS

Ref. No.	Part No.	Description
R721	RFACJ682	CARBON,6800 OHM,+-5%,1/4W
R722	RFACJ562	CARBON,5600 OHM,+-5%,1/4W

Ref. No.	Part No.	Description
R723	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R724	RFACJ121	CARBON,120 OHM,+-5%,1/4W
R725	RFACJ153	CARBON,15K OHM,+-5%,1/4W
R726	RFACJ682	CARBON,6800 OHM,+-5%,1/4W
R727	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R728	RFACJ151	CARBON,150 OHM,+-5%,1/4W
R729	RFACJ562	CARBON,5600 OHM,+-5%,1/4W
R730	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R731	RFACJ562	CARBON,5600 OHM,+-5%,1/4W
R732	RFACJ562	CARBON,5600 OHM,+-5%,1/4W
R733	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R734	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R735	RFACJ122	CARBON,1200 OHM,+-5%,1/4W
R736	RFACJ273	CARBON,27K OHM,+-5%,1/4W
R737	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R738	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R739	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R740	RFACJ151	CARBON,150 OHM,+-5%,1/4W
R741	RFACJ563	CARBON,56K OHM,+-5%,1/4W
R742	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R743	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R791	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R792	RFACJ392	CARBON,3900 OHM,+-5%,1/4W
R811	RFACJ821	CARBON,820 OHM,+-5%,1/4W
R812	RFACJ222	CARBON,2200 OHM,+-5%,1/4W
R813	RR1FJ330	OXIDE METALIZED,33 OHM,+-5%,1W
R814	RFACJ392	CARBON,3900 OHM,+-5%,1/4W
R815	RFACJ682	CARBON,6800 OHM,+-5%,1/4W
R816	RFACJ332	CARBON,3300 OHM,+-5%,1/4W
R818	RR1FJ151	OXIDE METALIZED,150 OHM,+-5%,1W
R831	RFACJ333	CARBON,33K OHM,+-5%,1/4W
R832	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R833	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R834	RR1FJ153	OXIDE METALIZED,15K OHM,+-5%,1W
R835	RR1FJ183	OXIDE METALIZED,18K OHM,+-5%,1W
R836	RFACJ222	CARBON,2200 OHM,+-5%,1/4W
R837	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R838	RFACJ274	CARBON,270K OHM,+-5%,1/4W
R839	RFACJ683	CARBON,68K OHM,+-5%,1/4W
R840	RFACJ101	CARBON,100 OHM,+-5%,1/4W
R841	RFACJ124	CARBON,120K OHM,+-5%,1/4W
R842	RFACJ473	CARBON,47K OHM,+-5%,1/4W
R843	RFACJ682	CARBON,6800 OHM,+-5%,1/4W
R844	RFACJ183	CARBON,18K OHM,+-5%,1/4W
R845	RFACJ473	CARBON,47K OHM,+-5%,1/4W
R846	RFACJ152	CARBON,1500 OHM,+-5%,1/4W
R847	RFACJ563	CARBON,56K OHM,+-5%,1/4W
R848	RFACJ274	CARBON,270K OHM,+-5%,1/4W
R849	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R850	RFACJ153	CARBON,15K OHM,+-5%,1/4W
R851	RFACJ183	CARBON,18K OHM,+-5%,1/4W
R852	RFACJ680	CARBON,68 OHM,+-5%,1/4W
R871	RFACJ224	CARBON,220K OHM,+-5%,1/4W
R872	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R873	RFACJ821	CARBON,820 OHM,+-5%,1/4W
R874	RFACJ123	CARBON,12K OHM,+-5%,1/4W
R875	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R876	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R877	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R879	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R880	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R881	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R882	RFACJ472	CARBON,4700 OHM,+-5%,1/4W
R883	RFACJ473	CARBON,47K OHM,+-5%,1/4W
R885	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R886	RR2FJ121	OXIDE METALIZED,120 OHM,+-5%,2W
R887	RFACJ683	CARBON,68K OHM,+-5%,1/4W
R891	RR1FJ183	OXIDE METALIZED,18K OHM,+-5%,1W
R892	RFACJ820	CARBON,82 OHM,+-5%,1/4W
R893	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R894	RFACJ223	CARBON,22K OHM,+-5%,1/4W
R895	RFACJ222	CARBON,2200 OHM,+-5%,1/4W
R896	RFACJ222	CARBON,2200 OHM,+-5%,1/4W
R897	RFACJ222	CARBON,2200 OHM,+-5%,1/4W
VARIABLE RESISTORS		
VR721	G0097XXT	30K OHM, B
VR723	G0122XXT	100K OHM, B
DIODES		
D721	E1121R	1S1555
	OR E1229R	1S2473
	OR E1324R	1S2076
D722	E1324R	1S2076
	OR E1229R	1S2473
	OR E1121R	1S1555
D723	E1121R	1S1555
	OR E1229R	1S2473
	OR E1324R	1S2076
D724	E1216ZG	EQB01-12, ZENER, 12V
D732	E1324R	1S2076
	OR E1229R	1S2473
	OR E1121R	1S1555
D791	E1121R	1S1555
	OR E1229R	1S2473
	OR E1324R	1S2076
D811	E1442R	S5277B
D812	E1271Z	EQA01-24
D814	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D815	E1121R	1S1555
	OR E1324R	1S2076
	OR E1229R	1S2473
D816	E1442R	S5277B
D817	E1442R	S5277B
D818	E1442R	S5277B
D819	E1442R	S5277B
D821	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D822	E1121R	1S1555

Ref. No.	Part No.	Description
	OR E1324R	1S2076
	OR E1229R	1S2473
D833	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D834	E1121R	1S1555
	OR E1324R	1S2076
	OR E1229R	1S2473
D871	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D872	E1121R	1S1555
	OR E1324R	1S2076
	OR E1229R	1S2473
D876	E1205ZS	EQA01-06S, ZENER, 6V
D877	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D878	E1121R	1S1555
	OR E1324R	1S2076
	OR E1229R	1S2473
D879	E1229R	1S2473
	OR E1324R	1S2076
	OR E1121R	1S1555
D880	E1121R	1S1555
	OR E1324R	1S2076
	OR E1229R	1S2473
D881	E1205ZS	EQA01-06S, ZENER, 6V
D882	E1714ZS	EQA01-05S, ZENER, 5V

MISCELLANEOUS

IC721A	E3255	IC SOCKET, 28PIN
IC791A	E3106	IC SOCKET, 14PIN
IC831A	E3252	IC SOCKET, 22PIN
IC871A	E3274	IC SOCKET, 42PIN
IC891A	E3185A	IC SOCKET, 9P
D832	Q7103	UPC574J, ZENER, 33V
	OR Q7175	LA5630
RL811	E2947A	POWER RELAY
X721	E8338A	CERAMIC OSCILLATOR, 455KHZ
	OR E8338	CERAMIC OSC, 455KHZ
7F	E3901	3P HOUSING PLUG
7G	E3903	PLUG, 5P HOUSING
7J	E3905	8P HOUSING PLUG
7K	E3912	11P HOUSING PLUG
7L	E3905	8P HOUSING PLUG
8M	E3906	9P HOUSING PLUG
8N	E3952	PLUG, 6P HOUSING

U880602A (CRT BOARD B2YC-A)

TRANSISTORS

Ref. No.	Part No.	Description
Q601	Q6531CA	2SC2228A(C)
	OR Q6541Y	2SC2229
	OR Q6541O	2SC2229(O)
	OR Q6536R	2SC1473NC(R)
	OR Q6536Q	2SC1473NC(Q)
	OR Q6536P	2SC1473NC(P)
	OR Q6531EA	2SC2228A(E)
	OR Q6531DA	2SC2228A(D)
Q611	Q6531DA	2SC2228A(D)
	OR Q6536P	2SC1473NC(P)
	OR Q6541O	2SC2229(O)
	OR Q6541Y	2SC2229
	OR Q6536R	2SC1473NC(R)
	OR Q6536Q	2SC1473NC(Q)
	OR Q6531EA	2SC2228A(E)
	OR Q6531CA	2SC2228A(C)
Q621	Q6531CA	2SC2228A(C)
	OR Q6536Q	2SC1473NC(Q)
	OR Q6541Y	2SC2229
	OR Q6541O	2SC2229(O)
	OR Q6536R	2SC1473NC(R)
	OR Q6536P	2SC1473NC(P)
	OR Q6531EA	2SC2228A(E)
	OR Q6531DA	2SC2228A(D)

CAPACITORS

C601	CCHFK561	CERAMIC,560PF,+-10%,50V
C602	CCHFK681	CERAMIC,680PF,+-10%,50V
C611	CCHFK561	CERAMIC,560PF,+-10%,50V
C612	CCHFK681	CERAMIC,680PF,+-10%,50V
C615	CCSAD2R0	CERAMIC,2PF,+-0.5PF,500V
C621	CCHFK561	CERAMIC,560PF,+-10%,50V
C622	CCHFK681	CERAMIC,680PF,+-10%,50V
C625	CCSAD2R0	CERAMIC,2PF,+-0.5PF,500V
C630	CFHSJ473	MYLAR FILM,0.047MF,+-5%,50V
	OR CFHRJ473	MYLAR FILM,0.047MF,+-5%,50V
C631	CCZJP102	CERAMIC,1000PF,+100%-0%,2KV
C633	CEMEA100	ELECTROLYTIC,10MF,250V

RESISTORS

R601	RFACJ151	CARBON,150 OHM,+-5%,1/4W
R602	RR2FJ123	OXIDE METALIZED,12K OHM,+-5%,2W
R603	RCBPK332	SOLID,3300 OHM,+-10%,1/2W
R604	RFACJ151	CARBON,150 OHM,+-5%,1/4W
R611	RFACJ151	CARBON,150 OHM,+-5%,1/4W
R612	RR2FJ123	OXIDE METALIZED,12K OHM,+-5%,2W
R613	RCBPK332	SOLID,3300 OHM,+-10%,1/2W
R621	RFACJ151	CARBON,150 OHM,+-5%,1/4W
R622	RR2FJ123	OXIDE METALIZED,12K OHM,+-5%,2W
R623	RCBPK332	SOLID,3300 OHM,+-10%,1/2W
R631	RCBPK274	SOLID,270K OHM,+-10%,1/2W

VARIABLE RESISTORS

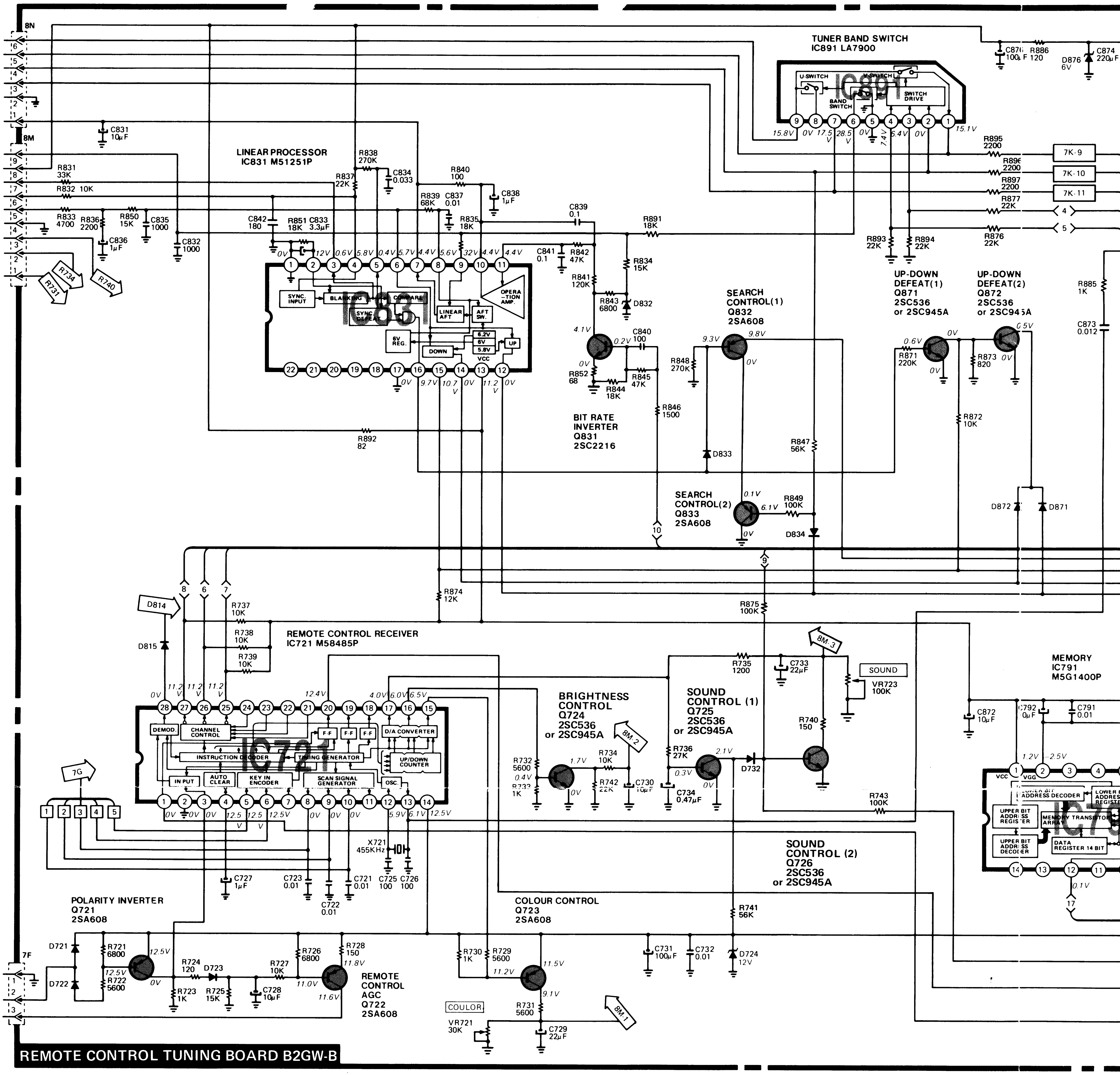
VR601	G1115XGM	5K OHM, B

Ref. No.	Part No.	Description
	OR G1115XGH	5K OHM, B
	OR G1115XGB	5K OHM, B
VR611	G1115XRB	5K OHM, B
	OR G1115XRM	5K OHM, B
	OR G1115XRH	5K OHM, B
VR612	G1126XXB	300 OHM, B
	OR G1126XXM	300 OHM, B
	OR G1126XXH	300 OHM, B
VR621	G1115XBM	5K OHM, B
	OR G1115XBB	5K OHM, B
	OR G1115XBH	5K OHM, B
VR622	G1126XXB	300 OHM, B
	OR G1126XXH	300 OHM, B
	OR G1126XXM	300 OHM, B
COILS		
L631	L4089	INDUCTOR, 18MH
MISCELLANEOUS		
FO	E3160	TERMINAL SOCKET FOR FOCUS BLOCK
FO	361411	HOLDER, LEAD WIRE
SCREEN	361411	HOLDER, LEAD WIRE
	OR E3160	TERMINAL SOCKET FOR FOCUS BLOCK
S601	E3324	CRT SOCKET
U880621 (MUTE BOARD B2EW)		
INTEGRATED CIRCUITS		
IC191	Q7191A	UPD4011BC, MUTE
CAPACITORS		
C188	CCSAK560	CERAMIC,56PF,+-10%,500V
C190	CFHSK104	MYLAR FILM,0.1MF,+-10%,50V
	OR CFHRK104	MYLAR FILM,0.1MF,+-10%,50V
C191	CCHFK331	CERAMIC,330PF,+-10%,50V
C192	CFHRK333	MYLAR FILM,0.033MF,+-10%,50V
	OR CFHSK333	MYLAR FILM,0.033MF,+-10%,50V
C193	CEDEA470	ELECTROLYTIC,47MF,16V
C194	CEFEA4R7	ELECTROLYTIC,4.7MF,25V
C195	CEHEAR47	ELECTROLYTIC,0.47MF,50V
RESISTORS		
R188	RFACJ102	CARBON,1K OHM,+-5%,1/4W
R189	RFBPJ331	CARBON,330 OHM,+-5%,1/2W
R191	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R192	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R193	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R194	RFACJ682	CARBON,6800 OHM,+-5%,1/4W
R195	RFACJ103	CARBON,10K OHM,+-5%,1/4W

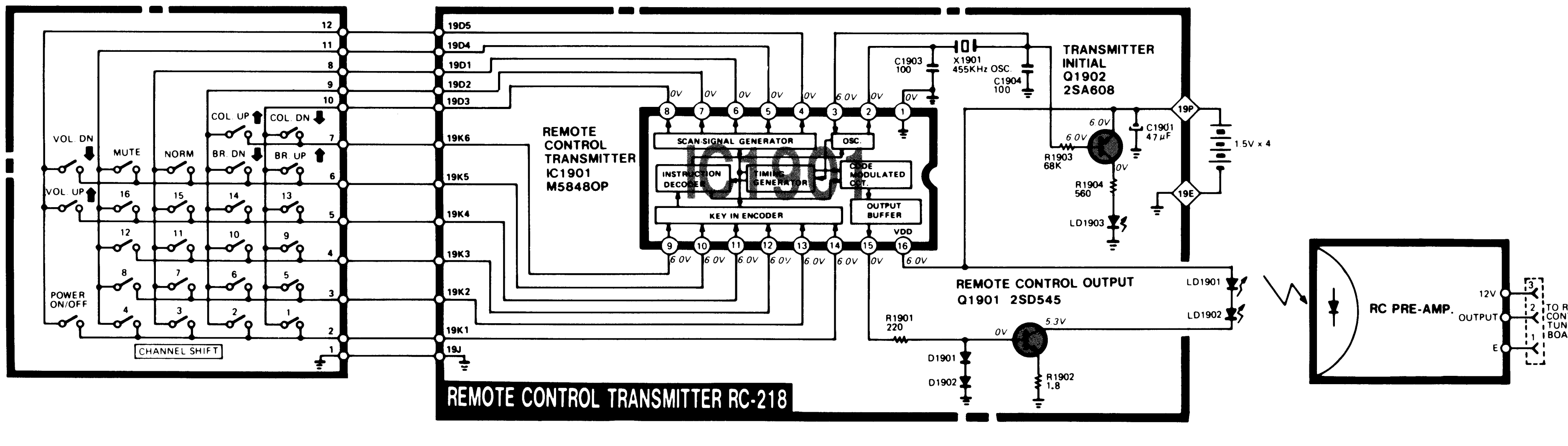
Ref. No.	Part No.	Description
R196	RFACJ103	CARBON,10K OHM,+-5%,1/4W
R197	RFACJ183	CARBON,18K OHM,+-5%,1/4W
R198	RFACJ104	CARBON,100K OHM,+-5%,1/4W
R199	RFACJ563	CARBON,56K OHM,+-5%,1/4W
DIODES		
D188	E1121R	1S1555
D190	E1121R	1S1555
	OR E1229R	1S2473
	OR E1324R	1S2076
MISCELLANEOUS		
IC191A	E3106	IC SOCKET, 14PIN
U880618 (DISPLAY BOARD B2ZW)		
INTEGRATED CIRCUITS		
IC1751	Q7183	SN29764N, DISPLAY
RESISTORS		
R1751	RFACJ123	CARBON,12K OHM,+-5%,1/4W
MISCELLANEOUS		
LD1751	E1482L	SL-1262-03, DISPLAY
PC1751	E1430L	P722-7R, ABC SENSOR
U860034 (POWER BOARD B2YC)		
COILS		
⚠L1302	L328	LINE FILTER
MISCELLANEOUS		
⚠F1301	E5045	FUSE, 2A, AC
F1301A	E5740	FUSE CLIP
F1301B	E5740	FUSE CLIP
U880798 (ABC BOARD B2ZW)		
CAPACITORS		
C651	CEHEA1R0	ELECTROLYTIC,1MF,50V

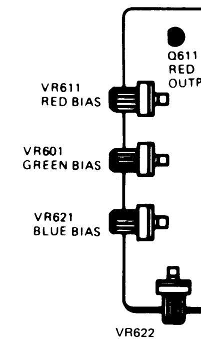
Ref. No.	Part No.	Description
RESISTORS		
R651	RFACJ153	CARBON,15K OHM,+-5%,1/4W
VARIABLE RESISTORS		
VR651	G2291	30K OHM, C & SWITCH
MISCELLANEOUS		
65A	E3901A	3P HOUSING PLUG
U880644 (KEY BOARD B2GW)		
LD1732A	E1347L	SLP-123B, LED
LD1733A	E1347L	SLP-123B, LED
U880499 (SEARCH MODE SW BOARD B2GA)		
7S	E3926A	2P HOUSING PLUG
OUT OF CIRCUIT BOARDS		
VARIABLE RESISTORS		
VR901*H-H	G3210XXM	300 OHM, B
	OR G3181XXT	300 OHM, B
VR902*V-H	G3186XXT	20K OHM, B
	OR G3186XXM	20K OHM, B
PICTURE TUBE		
⚠	Q9331XTH	370KRB22
COILS		
⚠ L901	L7337EAF	DEGAUSSING
⚠ L902	D0364XTH	DEFLECTION
TRANSFORMER		
T901	P291E	RC POWER

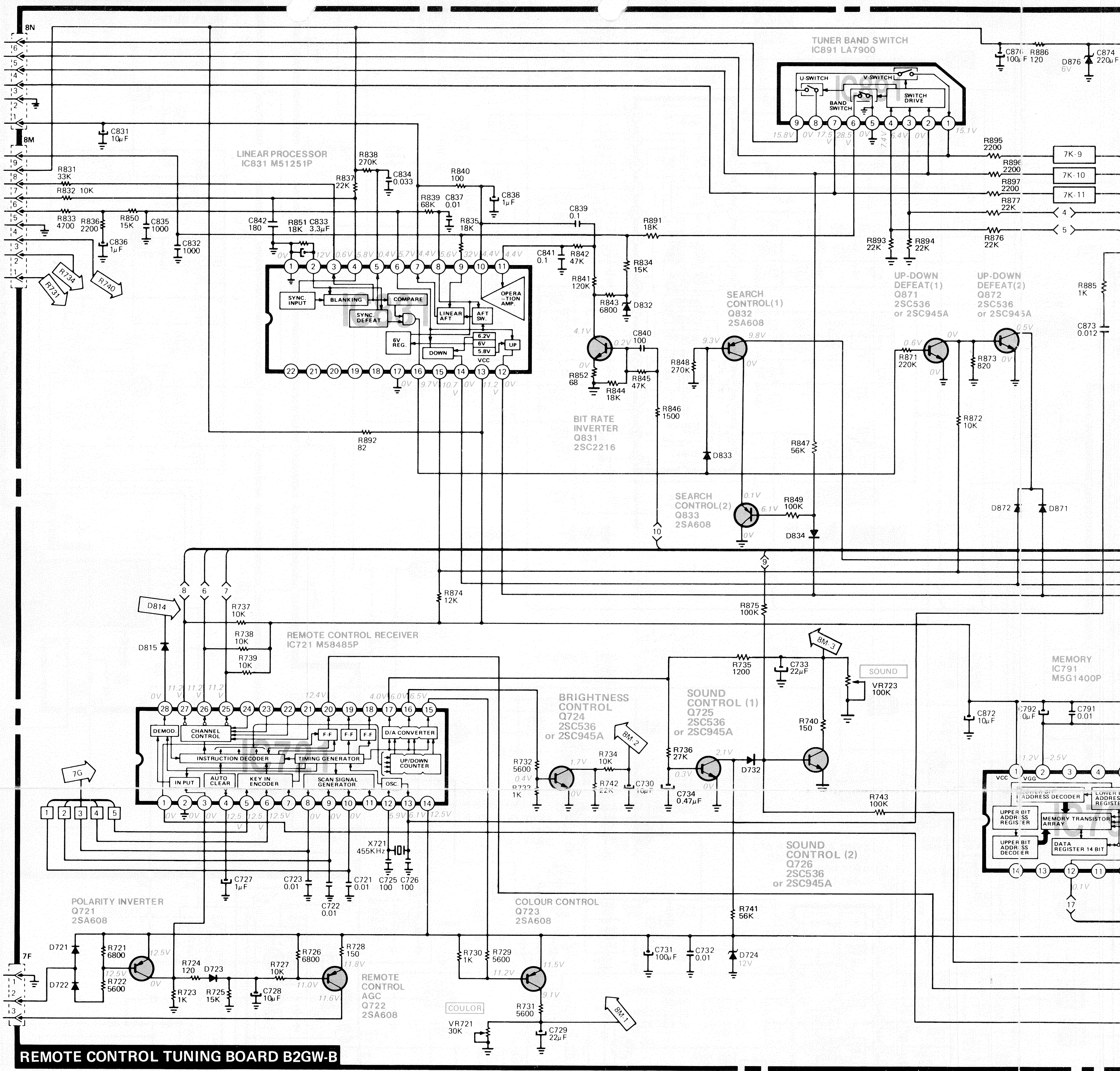
Ref. No.	Part No.	Description
MISCELLANEOUS		
ROD ANT	E3784H	PLUG WITH TELESCOPIC AERIAL LEAD
⚠ SW901*AC*	E2820	SWITCH
UNIT*	E4641	3P MINI HOUSING
VOL+	Z2052	RUBBER SHEET, CONNECTION
VOL-	Z2052	RUBBER SHEET, CONNECTION
1H	E6052	HOUSING, 2P
12KEY	Z2053	RUBBER SHEET, CONNECTION
13C	E4682	5P HOUSING PLUG
13D1	E6052	HOUSING, 2P
16KEY	Z2051	RUBBER SHEET, CONNECTION
3	E3257	SOCKET, TERMINAL
65A	E4641	3P MINI HOUSING
65A1	E3257	SOCKET, TERMINAL
7G	E4643	HOUSING, 5P
7GX5	E3257	SOCKET, TERMINAL
7J	E4645	8P MINI HOUSING
7JX8	E3257	SOCKET, TERMINAL
7K	E4650	11P MINI HOUSING
7KX10	E3257	SOCKET, TERMINAL
7L	E4645	8P MINI HOUSING
7LX8	E3257	SOCKET, TERMINAL
7S*SEARCH	E4641	3P MINI HOUSING
7SX2	E3257	SOCKET, TERMINAL
8A	E6052	HOUSING, 2P
8C1	E6051	HOUSING, 1P
8M	E4646	9P MINI HOUSING
8MX9	E3257	SOCKET, TERMINAL
8N	E4724	6P MINI HOUSING
8NX6	E3257	SOCKET, TERMINAL
	J1906	CRT GROUNDING LEAD
	J9703	AERIAL TERMINAL
	V1584A	SPEAKER
RC	U161XC	RC PRE-AMP.
	D4106X	CG PURITY MAGNET
	OR D4108X	CG PURITY MAGNET
	3600167	DY SPACER


REMOTE CONTROL TUNING BOARD B2GW-B
TUNER BAND SWITCH
IC891 LA7900
U-SWITCH
V-SWITCH
BAND SWITCH
SWITCH DRIVE
IC891
LINEAR PROCESSOR
IC831 M51251P
SYNC. INPUT
BLANKING
COMPARE
SYNC DEFEAT
LINEAR AFT
AFT SW.
OPERA-TION AMP.
6V REG.
DOWN
UP
VCC
IC831
BIT RATE INVERTER
Q831
2SC2216
SEARCH CONTROL(1)
Q832
2SA608
SEARCH CONTROL(2)
Q833
2SA608
UP-DOWN DEFEAT(1)
Q871
2SC536
or 2SC945A
UP-DOWN DEFEAT(2)
Q872
2SC536
or 2SC945A
REMOTE CONTROL RECEIVER
IC721 M58485P
DEMOD.
CHANNEL CONTROL
INSTRUCTION DECODER
TIMING GENERATOR
IN PUT
AUTO CLEAR
KEY IN ENCODER
SCAN SIGNAL GENERATOR
OSC.
F-F
D/A CONVERTER
UP/DOWN COUNTER
IC721
BRIGHTNESS CONTROL
Q724
2SC536
or 2SC945A
SOUND CONTROL (1)
Q725
2SC536
or 2SC945A
SOUND CONTROL (2)
Q726
2SC536
or 2SC945A
SOUND
VR723 100K
MEMORY
IC791
M5G1400P
LOWER BIT ADDRESS DECODER
UPPER BIT ADDRESS REGISTER
MEMORY TRANSISTOR ARRAY
UPPER BIT ADDRESS DECODER
DATA REGISTER 14 BIT
VCC
VGG
POLARITY INVERTER
Q721
2SA608
REMOTE CONTROL AGC
Q722
2SA608
COLOUR CONTROL
Q723
2SA608
COULOR
VR721 30K
X721 455KHz
8N
8M
7F
7G
8M-1
8M-2
8M-3
D814
R734
R731
R740
7K-9
7K-10
7K-11

COM

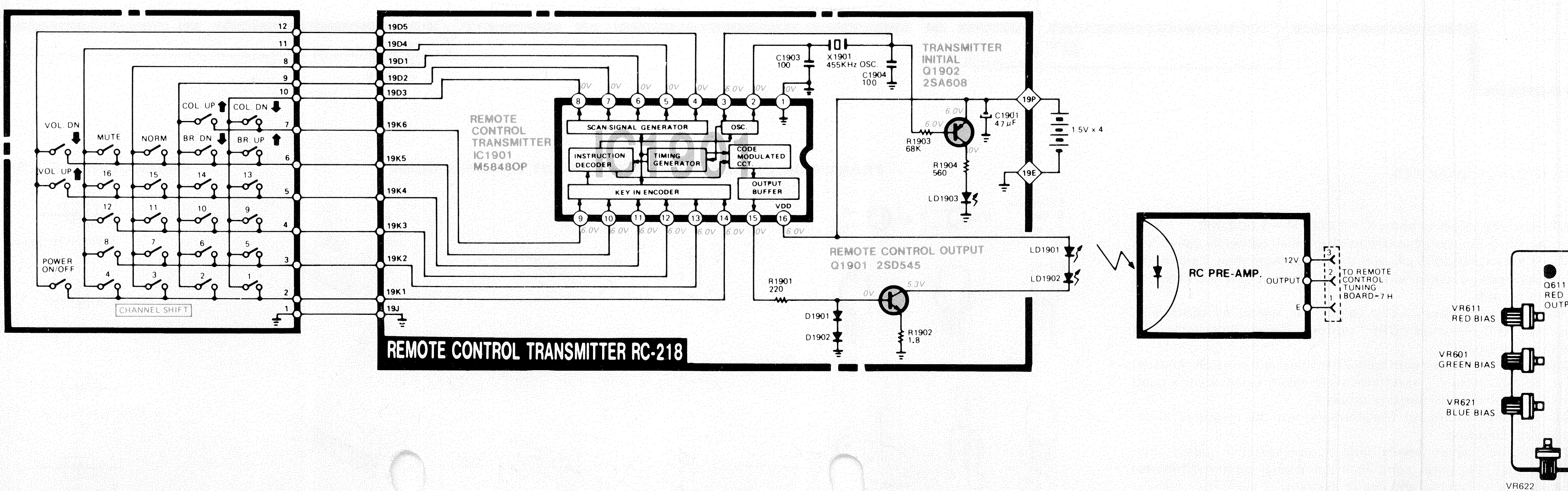

REMOTE CONTROL TRANSMITTER RC-218
REMOTE CONTROL TRANSMITTER
IC1901
M58480P
SCAN SIGNAL GENERATOR
OSC
INSTRUCTION DECODER
TIMING GENERATOR
CODE MODULATED OUT
OUTPUT BUFFER
KEY-IN ENCODER
VDD
IC1901
X1901 455KHz OSC
TRANSMITTER INITIAL
Q1902
2SA608
REMOTE CONTROL OUTPUT
Q1901 2SD545
LD1901
LD1902
LD1903
1.5V × 4
VOL DN
VOL UP
MUTE
NORM
COL UP
COL DN
BR DN
BR UP
POWER ON/OFF
CHANNEL SHIFT
19D5
19D4
19D1
19D2
19D3
19K6
19K5
19K4
19K3
19K2
19K1
19J
19P
19E
RC PRE-AMP.
12V
OUTPUT
E
TO REMOTE CONTROL TUNING BOARD-7H


Q611
RED
VR611
RED BIAS
VR601
GREEN BIAS
VR621
BLUE BIAS
VR622

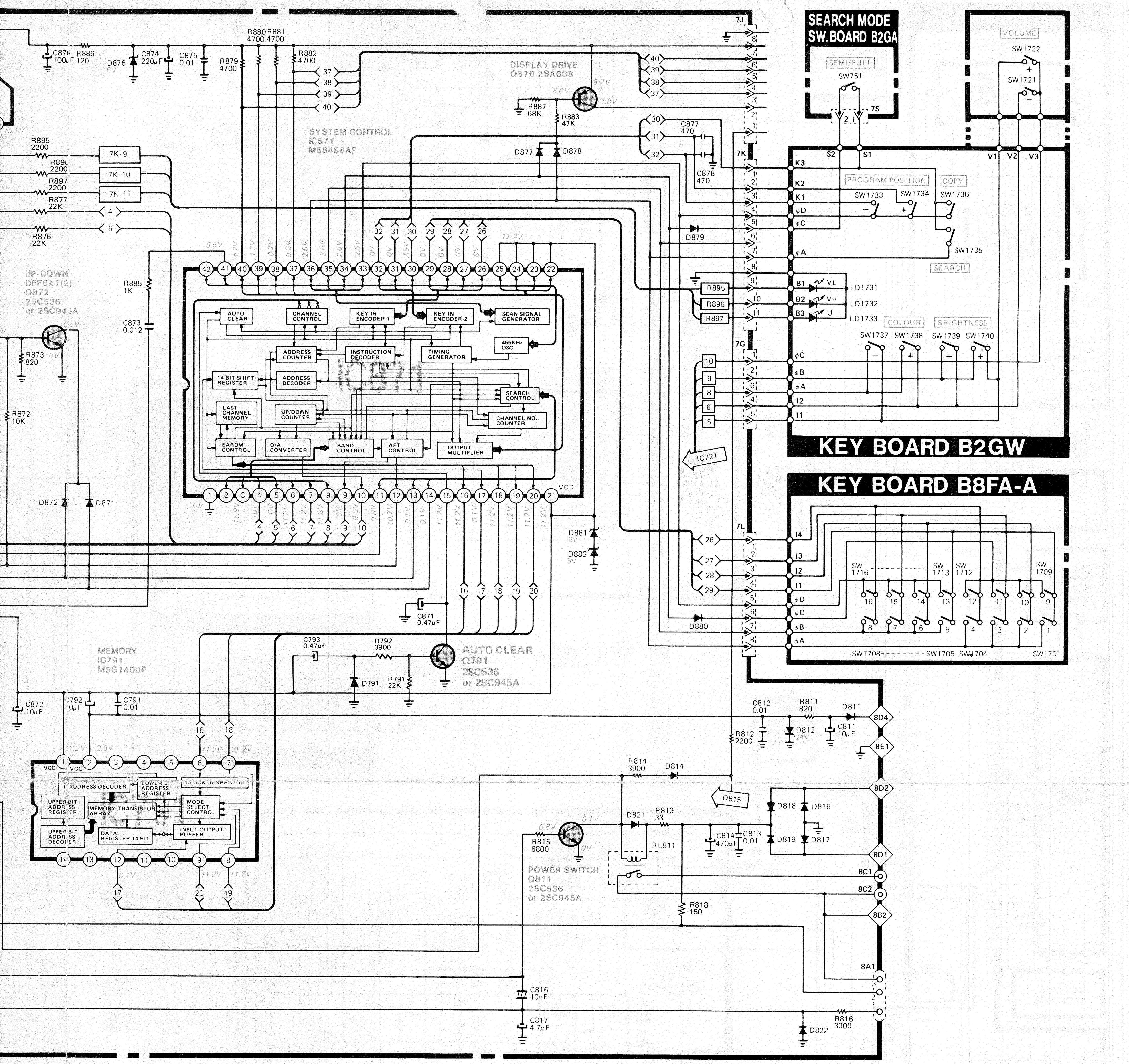


TUNER BAND SWITCH
IC891 LA7900
U-SWITCH
V-SWITCH
BAND SWITCH
SWITCH DRIVE
IC891
LINEAR PROCESSOR
IC831 M51251P
SYNC. INPUT
BLANKING
COMPARE
SYNC. DEFEAT
LINEAR AFT
AFT SW.
OPERA-TION AMP.
6V REG.
DOWN
UP
VCC
IC831
SEARCH CONTROL(1)
Q832
2SA608
BIT RATE INVERTER
Q831
2SC2216
SEARCH CONTROL(2)
Q833
2SA608
UP-DOWN DEFEAT(1)
Q871
2SC536
or 2SC945A
UP-DOWN DEFEAT(2)
Q872
2SC536
or 2SC945A
7K-9
7K-10
7K-11
8N
8M
7F
R734
R731
R740
D814
7G
8M-1
8M-2
8M-3
REMOTE CONTROL RECEIVER
IC721 M58485P
DEMOD.
CHANNEL CONTROL
INSTRUCTION DECODER
TIMING GENERATOR
D/A CONVERTER
UP/DOWN COUNTER
IN PUT
AUTO CLEAR
KEY IN ENCODER
SCAN SIGNAL GENERATOR
OSC.
IC721
X721
455KHz
BRIGHTNESS CONTROL
Q724
2SC536
or 2SC945A
SOUND CONTROL (1)
Q725
2SC536
or 2SC945A
SOUND
VR723
100K
SOUND CONTROL (2)
Q726
2SC536
or 2SC945A
MEMORY
IC791
M5G1400P
VCC
VGG
LOWER BIT ADDRESS DECODER
UPPER BIT ADDRESS REGISTER
MEMORY TRANSISTOR ARRAY
UPPER BIT ADDRESS DECODER
DATA REGISTER 14 BIT
POLARITY INVERTER
Q721
2SA608
REMOTE CONTROL AGC
Q722
2SA608
COLOUR CONTROL
Q723
2SA608
COULOR
VR721
30K
REMOTE CONTROL TUNING BOARD B2GW-B

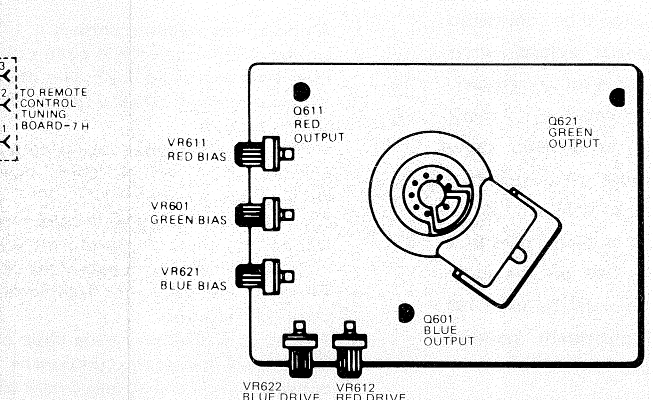
COM

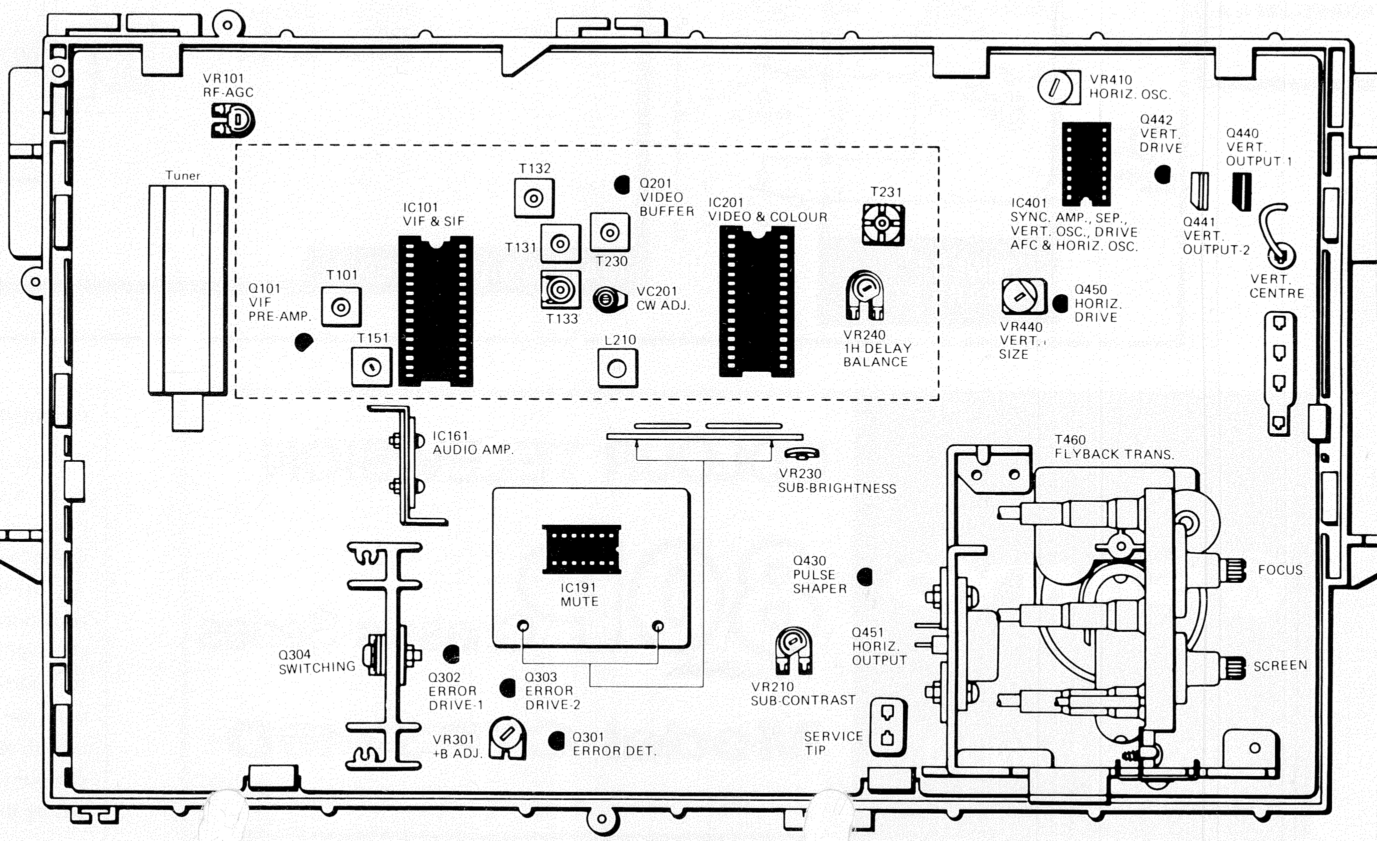


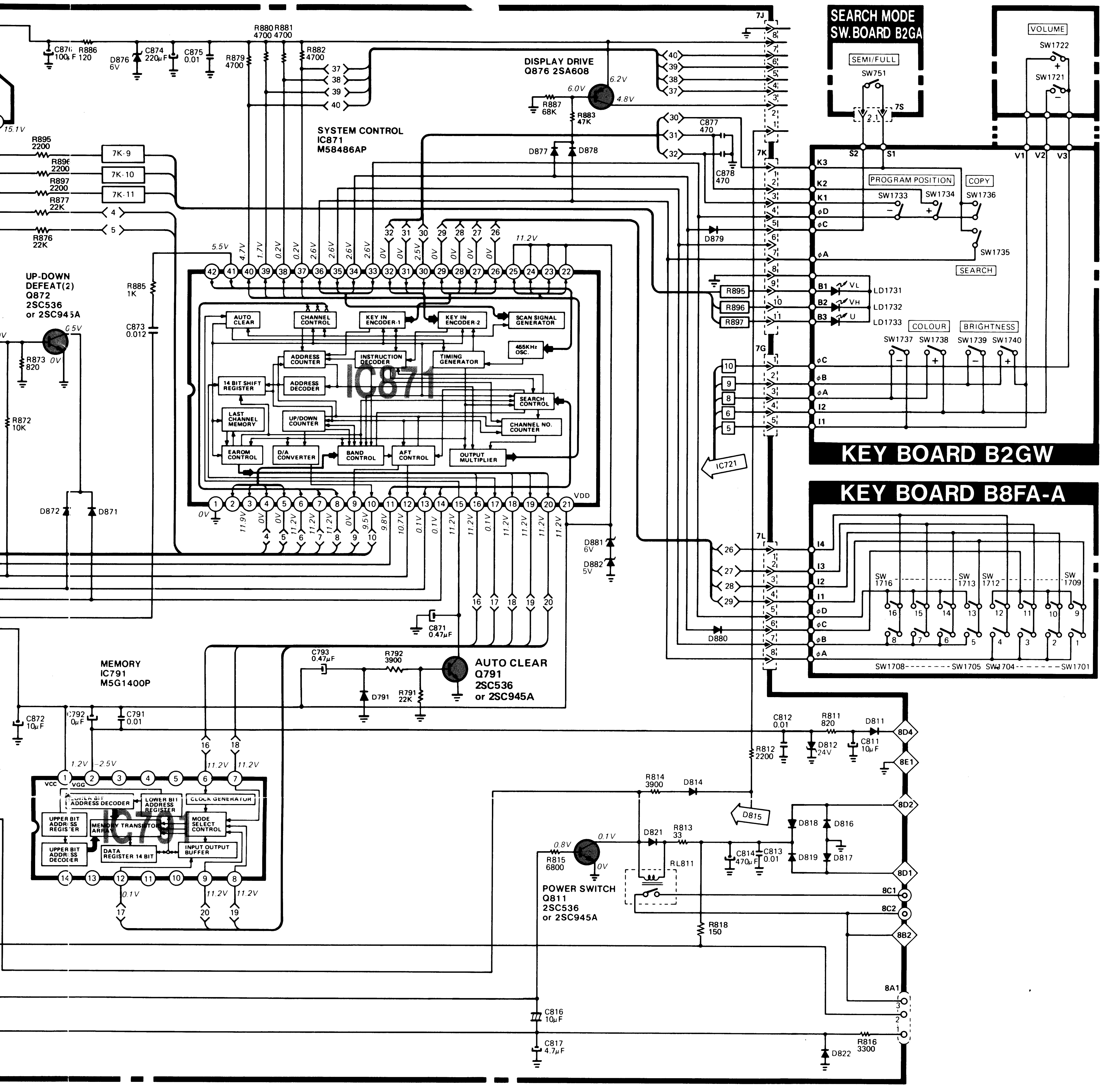
VOL DN
VOL UP
MUTE
NORM
COL UP
COL DN
BR DN
BR UP
POWER ON/OFF
CHANNEL SHIFT
19D5
19D4
19D1
19D2
19D3
19K6
19K5
19K4
19K3
19K2
19K1
19J
REMOTE CONTROL TRANSMITTER
IC1901
M58480P
SCAN SIGNAL GENERATOR
OSC
INSTRUCTION DECODER
TIMING GENERATOR
CODE MODULATED CCT
KEY IN ENCODER
OUTPUT BUFFER
VDD
IC1901
X1901
455KHz OSC.
TRANSMITTER INITIAL
Q1902
2SA608
1.5V x 4
19P
19E
LD1903
REMOTE CONTROL OUTPUT
Q1901 2SD545
LD1901
LD1902
D1901
D1902
RC PRE-AMP.
12V
OUTPUT
E
TO REMOTE CONTROL TUNING BOARD-7 H
REMOTE CONTROL TRANSMITTER RC-218
VR611
RED BIAS
VR601
GREEN BIAS
VR621
BLUE BIAS
Q611
VR622


SEARCH MODE SW.BOARD B2GA
SEMI/FULL
SW751
7S
VOLUME
SW1722
SW1721
DISPLAY DRIVE
Q876 2SA608
SYSTEM CONTROL
IC871
M58486AP
R880 4700
R881 4700
R882 4700
R879 4700
C876 100μF
R886 120
D876 6V
C874 220μF
C875 0.01
R887 68K
R883 47K
C877 470
C878 470
D877
D878
D879
D880
R895 2200
R896 2200
R897 2200
R877 22K
R876 22K
7K-9
7K-10
7K-11
UP-DOWN DEFEAT(2)
Q872
2SC536
or 2SC945A
R873 820
R872 10K
R885 1K
C873 0.012
D872
D871
AUTO CLEAR
CHANNEL CONTROL
KEY IN ENCODER 1
KEY IN ENCODER 2
SCAN SIGNAL GENERATOR
ADDRESS COUNTER
INSTRUCTION DECODER
TIMING GENERATOR
455KHz OSC.
14 BIT SHIFT REGISTER
ADDRESS DECODER
SEARCH CONTROL
LAST CHANNEL MEMORY
UP/DOWN COUNTER
CHANNEL NO. COUNTER
EAROM CONTROL
D/A CONVERTER
BAND CONTROL
AFT CONTROL
OUTPUT MULTIPLIER
IC871
VDD
IC721
D881 6V
D882 5V
C871 0.47μF
7J
7K
7G
7L
K3
K2
K1
S2
S1
V1
V2
V3
PROGRAM POSITION
COPY
SW1733
SW1734
SW1736
SW1735
SEARCH
B1
B2
B3
VL
VH
U
LD1731
LD1732
LD1733
COLOUR
BRIGHTNESS
SW1737
SW1738
SW1739
SW1740
KEY BOARD B2GW
KEY BOARD B8FA-A
SW1716
SW1713
SW1712
SW1709
SW1708
SW1705
SW1704
SW1701
MEMORY
IC791
M5G1400P
C793 0.47μF
R792 3900
AUTO CLEAR
Q791
2SC536
or 2SC945A
D791
R791 22K
C872 10μF
C792 10μF
C791 0.01
VCC
VGG
LOWER BIT ADDRESS DECODER
LOWER BIT ADDRESS REGISTER
CLOCK GENERATOR
UPPER BIT ADDRESS REGISTER
MEMORY TRANSISTOR ARRAY
MODE SELECT CONTROL
UPPER BIT ADDRESS DECODER
DATA REGISTER 14 BIT
INPUT OUTPUT BUFFER
C812 0.01
R811 820
D811
D812 24V
C811 10μF
R812 2200
8D4
8E1
8D2
8D1
8C1
8C2
8B2
8A1
R814 3900
D814
D815
D818
D816
D819
D817
D821
R813 33
C814 470μF
C813 0.01
RL811
POWER SWITCH
Q811
2SC536
or 2SC945A
R815 6800
R818 150
C816 10μF
C817 4.7μF
R816 3300
D822

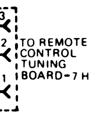
COMPONENT LOCATION

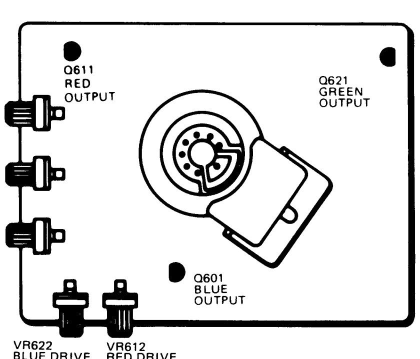

TO REMOTE CONTROL TUNING BOARD-7H
Q611 RED OUTPUT
Q621 GREEN OUTPUT
VR611 RED BIAS
VR601 GREEN BIAS
VR621 BLUE BIAS
Q601 BLUE OUTPUT
VR622 BLUE DRIVE
VR612 RED DRIVE

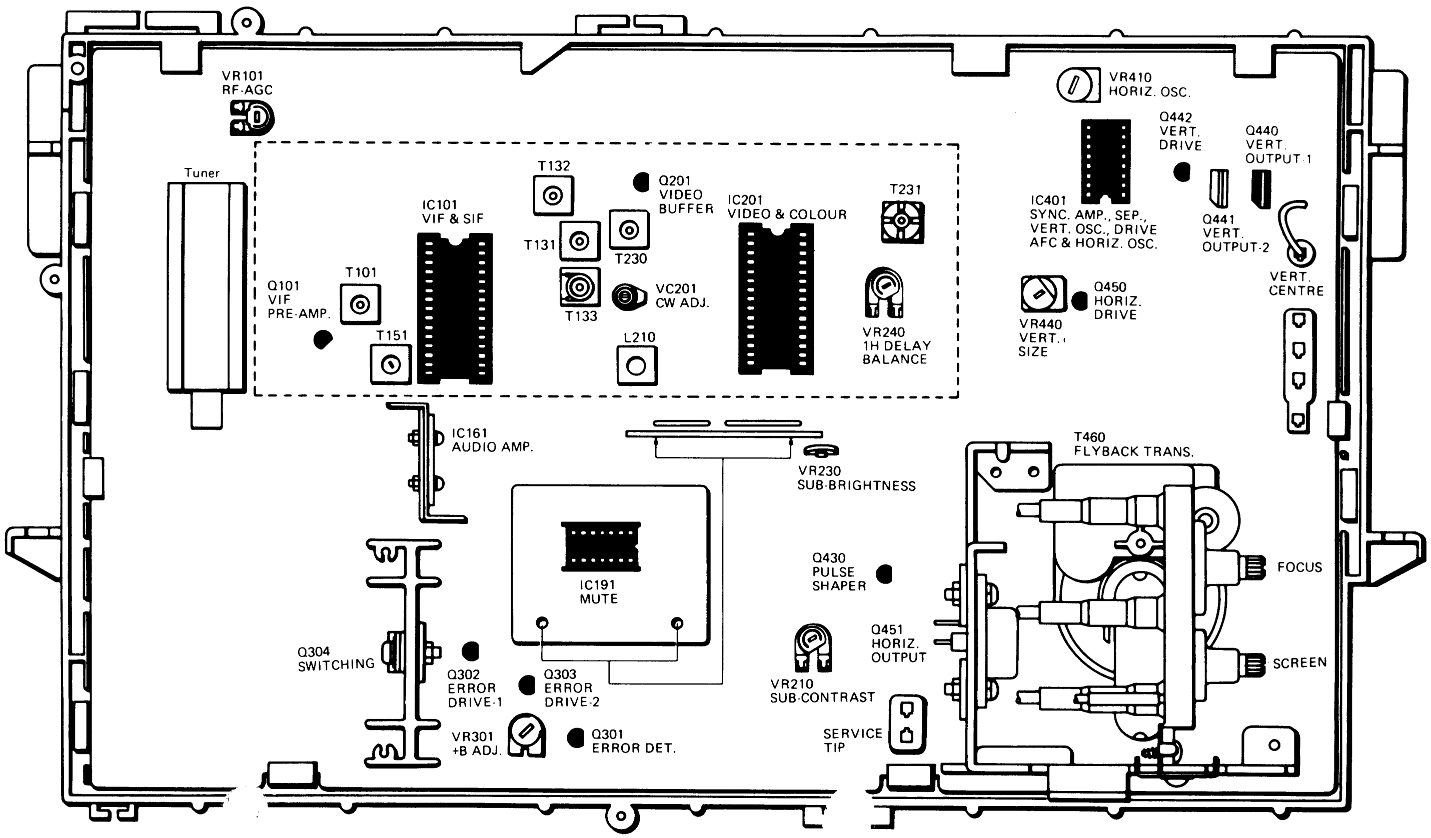

VR101 RF-AGC
Tuner
Q101 VIF PRE-AMP.
T101
T151
IC101 VIF & SIF
T132
T131
T133
T230
Q201 VIDEO BUFFER
VC201 CW ADJ.
L210
IC201 VIDEO & COLOUR
T231
VR240 1H DELAY BALANCE
VR410 HORIZ. OSC.
IC401 SYNC. AMP., SEP., VERT. OSC., DRIVE AFC & HORIZ. OSC.
Q442 VERT. DRIVE
Q440 VERT OUTPUT 1
Q441 VERT. OUTPUT 2
VERT. CENTRE
VR440 VERT. SIZE
Q450 HORIZ. DRIVE
IC161 AUDIO AMP.
VR230 SUB-BRIGHTNESS
IC191 MUTE
Q304 SWITCHING
Q302 ERROR DRIVE-1
Q303 ERROR DRIVE-2
VR301 +B ADJ.
Q301 ERROR DET.
Q430 PULSE SHAPER
VR210 SUB-CONTRAST
Q451 HORIZ. OUTPUT
SERVICE TIP
T460 FLYBACK TRANS.
FOCUS
SCREEN

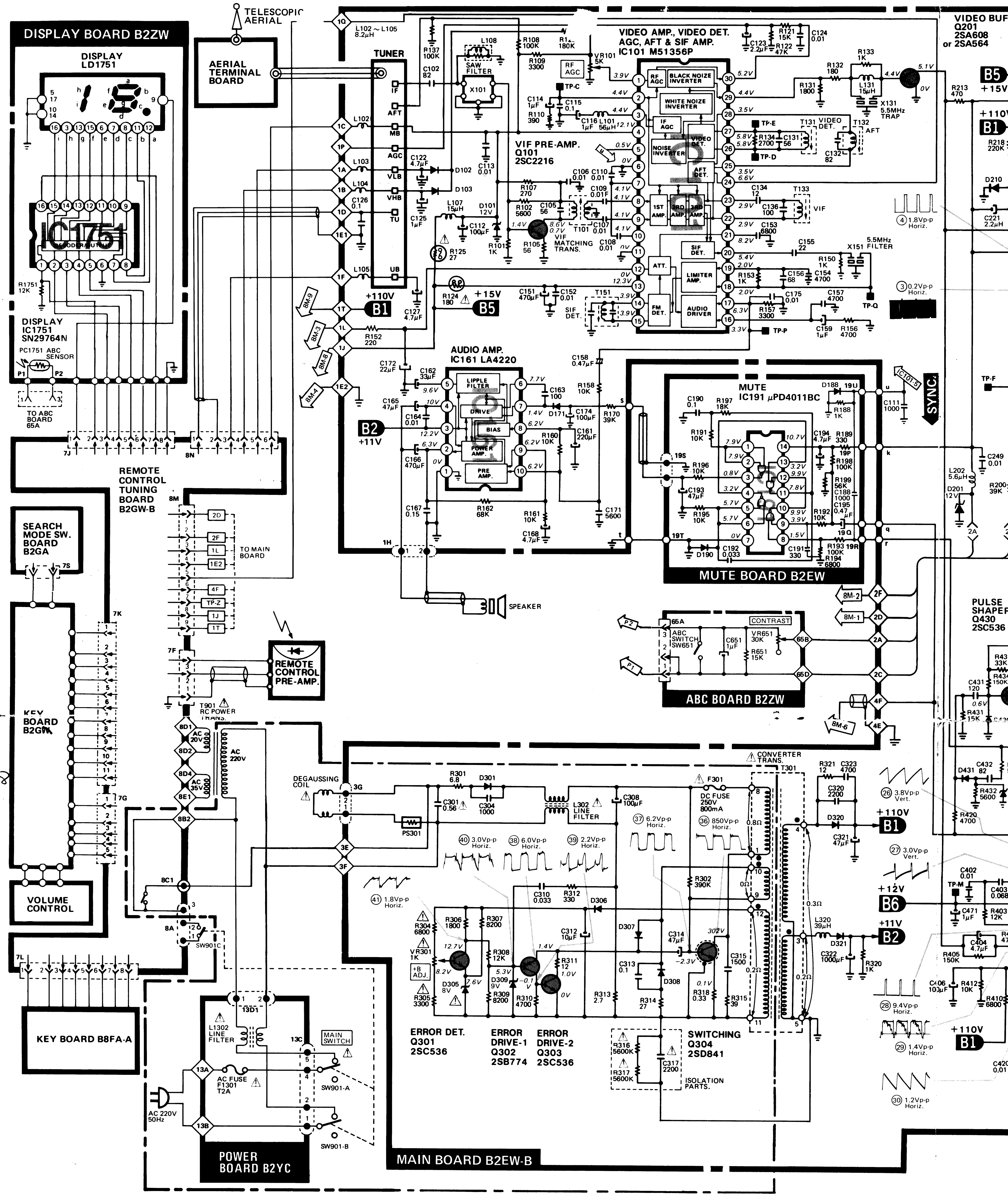

SEARCH MODE SW. BOARD B2GA
SEMI/FULL
SW751
VOLUME
SW1722
SW1721
DISPLAY DRIVE
Q876 2SA608
SYSTEM CONTROL
IC871
M58486AP
UP-DOWN DEFEAT(2)
Q872
2SC536
or 2SC945A
AUTO CLEAR
CHANNEL CONTROL
KEY IN ENCODER-1
KEY IN ENCODER-2
SCAN SIGNAL GENERATOR
455KHz OSC.
ADDRESS COUNTER
INSTRUCTION DECODER
TIMING GENERATOR
14 BIT SHIFT REGISTER
ADDRESS DECODER
SEARCH CONTROL
LAST CHANNEL MEMORY
UP/DOWN COUNTER
CHANNEL NO. COUNTER
EAROM CONTROL
D/A CONVERTER
BAND CONTROL
AFT CONTROL
OUTPUT MULTIPLIER
IC871
VDD
PROGRAM POSITION
COPY
SW1733
SW1734
SW1736
SW1735
SEARCH
LD1731
LD1732
LD1733
COLOUR
BRIGHTNESS
SW1737
SW1738
SW1739
SW1740
KEY BOARD B2GW
IC721
KEY BOARD B8FA-A
SW1716
SW1713
SW1712
SW1709
SW1708
SW1705
SW1704
SW1701
MEMORY
IC791
M5G1400P
AUTO CLEAR
Q791
2SC536
or 2SC945A
LOWER BIT ADDRESS DECODER
LOWER BIT ADDRESS REGISTER
CLOCK GENERATOR
UPPER BIT ADDRESS REGISTER
MEMORY TRANSISTOR ARRAY
MODE SELECT CONTROL
UPPER BIT ADDRESS DECODER
DATA REGISTER 14 BIT
INPUT OUTPUT BUFFER
IC791
POWER SWITCH
Q811
2SC536
or 2SC945A
RL811
D815
8D4
8E1
8D2
8D1
8C1
8C2
8B2
8A1

COMPONENT LOCATION


TO REMOTE CONTROL TUNING BOARD-7H


Q611 RED OUTPUT
Q621 GREEN OUTPUT
VR611 RED BIAS
VR601 GREEN BIAS
VR621 BLUE BIAS
Q601 BLUE OUTPUT
VR622 BLUE DRIVE
VR612 RED DRIVE


VR101 RF-AGC
Tuner
T132
Q201 VIDEO BUFFER
IC101 VIF & SIF
IC201 VIDEO & COLOUR
T231
T131
T230
Q101 VIF PRE-AMP.
T101
T133
VC201 CW ADJ.
VR240 1H DELAY BALANCE
T151
L210
VR410 HORIZ. OSC.
Q442 VERT. DRIVE
Q440 VERT OUTPUT 1
IC401 SYNC. AMP., SEP., VERT. OSC., DRIVE AFC & HORIZ. OSC.
Q441 VERT. OUTPUT-2
VERT CENTRE
VR440 VERT. SIZE
Q450 HORIZ. DRIVE
IC161 AUDIO AMP.
VR230 SUB-BRIGHTNESS
T460 FLYBACK TRANS.
IC191 MUTE
Q430 PULSE SHAPER
FOCUS
Q304 SWITCHING
Q302 ERROR DRIVE-1
Q303 ERROR DRIVE-2
Q451 HORIZ. OUTPUT
VR210 SUB-CONTRAST
SCREEN
VR301 +B ADJ.
Q301 ERROR DET.
SERVICE TIP


DISPLAY BOARD B2ZW
DISPLAY LD1751
IC1751
DISPLAY IC1751 SN29764N
PC1751 ABC SENSOR
TO ABC BOARD 65A
TELESCOPIC AERIAL
AERIAL TERMINAL BOARD
TUNER
L102 ~ L105 8.2μH
SAW FILTER
X101
VIDEO AMP., VIDEO DET. AGC, AFT & SIF AMP. IC101 M51356P
RF AGC
BLACK NOIZE INVERTER
WHITE NOIZE INVERTER
IF AGC
NOISE INVERTER
VIDEO DET.
AFT DET.
1ST AMP.
3RD AMP.
SIF DET.
ATT.
LIMITER AMP.
FM DET.
AUDIO DRIVER
VIF PRE-AMP. Q101 2SC2216
VIF MATCHING TRANS.
X131 5.5MHz TRAP
T131 VIDEO DET.
T132 AFT
T133 VIF
X151 5.5MHz FILTER
TP-C
TP-E
TP-D
TP-Q
TP-P
SIF DET.
VIDEO BUF Q201 2SA608 or 2SA564
B5 +15V
B1 +110V
+110V B1
+15V B5
AUDIO AMP. IC161 LA4220
LIPPLE FILTER
DRIVE
BIAS
POWER AMP.
PRE AMP.
B2 +11V
SPEAKER
MUTE IC191 μPD4011BC
MUTE BOARD B2EW
SYNC.
ABC BOARD B2ZW
65A
ABC SWITCH SW651
CONTRAST
VR651 30K
R651 15K
C651 1μF
REMOTE CONTROL TUNING BOARD B2GW-B
TO MAIN BOARD
SEARCH MODE SW. BOARD B2GA
KEY BOARD B2GW
VOLUME CONTROL
KEY BOARD B8FA-A
REMOTE CONTROL PRE-AMP.
T901 RC POWER TRANS.
AC 20V
AC 220V
AC 35V
DEGAUSSING COIL
PS301
L302 LINE FILTER
CONVERTER TRANS. T301
F301 DC FUSE 250V 800mA
ERROR DET. Q301 2SC536
ERROR DRIVE-1 Q302 2SB774
ERROR DRIVE-2 Q303 2SC536
SWITCHING Q304 2SD841
ISOLATION PARTS.
+B ADJ.
L1302 LINE FILTER
AC FUSE F1301 T2A
MAIN SWITCH
SW901-A
SW901-B
SW901C
AC 220V 50Hz
POWER BOARD B2YC
MAIN BOARD B2EW-B
PULSE SHAPER Q430 2SC536
B6 +12V
B2 +11V
B1 +110V
④ 1.8Vp-p Horiz.
③ 0.2Vp-p Horiz.
㊵ 3.0Vp-p Horiz.
㊳ 6.0Vp-p Horiz.
㊴ 2.2Vp-p Horiz.
㊲ 6.2Vp-p Horiz.
㊱ 850Vp-p Horiz.
㊶ 1.8Vp-p Horiz.
㉖ 3.8Vp-p Vert.
㉗ 3.0Vp-p Vert.
㉘ 9.4Vp-p Horiz.
㉙ 1.4Vp-p Horiz.
㉚ 1.2Vp-p Horiz.

SANYO

SERVICE MANUAL
ORIGINAL

COLOUR TELEVISION

80P Chassis Series

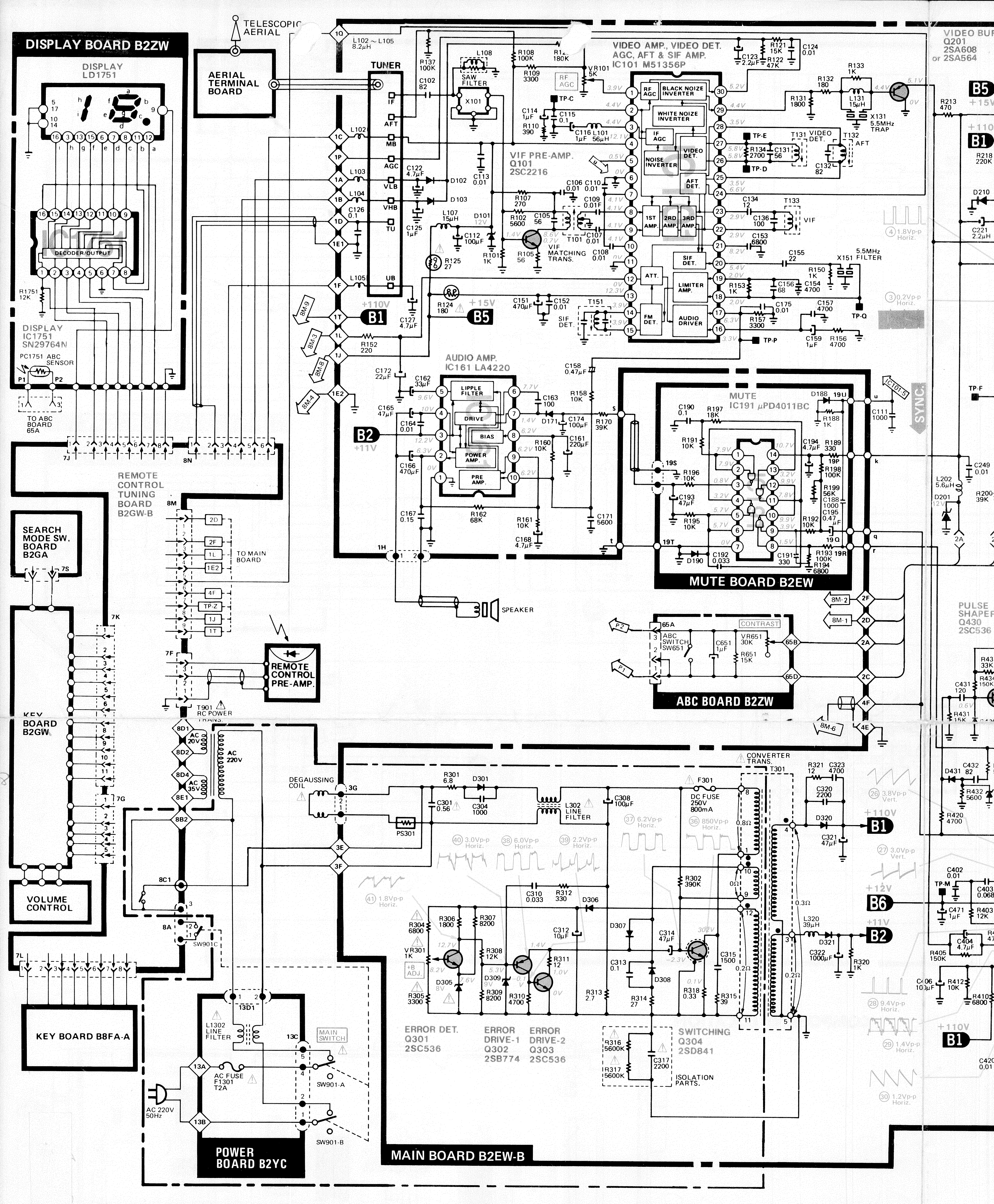
Model CTP3246D

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a mark ⚠ in this circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the parts list of service manual be used for components replacement pointed out by the mark.

CIRCUIT DIAGRAM NOTES:

1. All resistance values in ohms K = 1,000
2. Unless otherwise noted in circuit diagra
than 1 are expressed in μF, and the valu
3. Voltage reading taken with "VOM"
chassis ground.
Voltage reading taken using colour b
normal, AFC switch in "OFF" positio
with signal strength.
4. Waveforms were taken with colour bar si
for normal picture. Waveforms were
oscilloscope and low capacity probe.
5. All resistance values for transformers
unwired condition.
6. This circuit diagram covers basic or re
There may be some component or


DISPLAY BOARD B2ZW
DISPLAY LD1751
DECODER/OUTPUT
DISPLAY IC1751 SN29764N
PC1751 ABC SENSOR
TO ABC BOARD 65A
TELESCOPIC AERIAL
AERIAL TERMINAL BOARD
TUNER
SAW FILTER
VIDEO AMP., VIDEO DET. AGC, AFT & SIF AMP. IC101 M51356P
BLACK NOISE INVERTER
WHITE NOIZE INVERTER
IF AGC
NOISE INVERTER
VIDEO DET.
AFT DET.
1ST AMP.
2ND AMP.
3RD AMP.
SIF DET.
ATT.
LIMITER AMP.
FM DET.
AUDIO DRIVER
VIF PRE-AMP. Q101 2SC2216
VIF MATCHING TRANS.
VIDEO BUF Q201 2SA608 or 2SA564
X131 5.5MHz TRAP
X151 5.5MHz FILTER
AUDIO AMP. IC161 LA4220
LIPPLE FILTER
DRIVE
BIAS
POWER AMP.
PRE AMP.
MUTE IC191 μPD4011BC
MUTE BOARD B2EW
SYNC.
SPEAKER
REMOTE CONTROL TUNING BOARD B2GW-B
TO MAIN BOARD
SEARCH MODE SW. BOARD B2GA
REMOTE CONTROL PRE-AMP.
T901 RC POWER
KEY BOARD B2GW
VOLUME CONTROL
KEY BOARD B8FA-A
ABC SWITCH SW651
CONTRAST
ABC BOARD B2ZW
PULSE SHAPER Q430 2SC536
DEGAUSSING COIL
LINE FILTER
CONVERTER TRANS. T301
DC FUSE 250V 800mA
ERROR DET. Q301 2SC536
ERROR DRIVE-1 Q302 2SB774
ERROR DRIVE-2 Q303 2SC536
SWITCHING Q304 2SD841
ISOLATION PARTS.
MAIN SWITCH
AC FUSE F1301 T2A
AC 220V 50Hz
L1302 LINE FILTER
POWER BOARD B2YC
MAIN BOARD B2EW-B

SANYO

SERVICE MANUAL ORIGINAL

COLOUR TELEVISION

80P Chassis Series

Model CTP3246D

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a mark ⚠ in this circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the parts list of service manual be used for components replacement pointed out by the mark.

CIRCUIT DIAGRAM NOTES:

1. All resistance values in ohms K = 1,000,
2. Unless otherwise noted in circuit diagra than 1 are expressed in μF, and the valu
3. Voltage reading taken with "VOM" chassis ground.
   Voltage reading taken using colour b normal, AFC switch in "OFF" positio with signal strength.
4. Waveforms were taken with colour bar si for normal picture. Waveforms were oscilloscope and low capacity probe.
5. All resistance values for transformers unwired condition.
6. This circuit diagram covers basic or re There may be some component or between actual chassis and circuit diagr

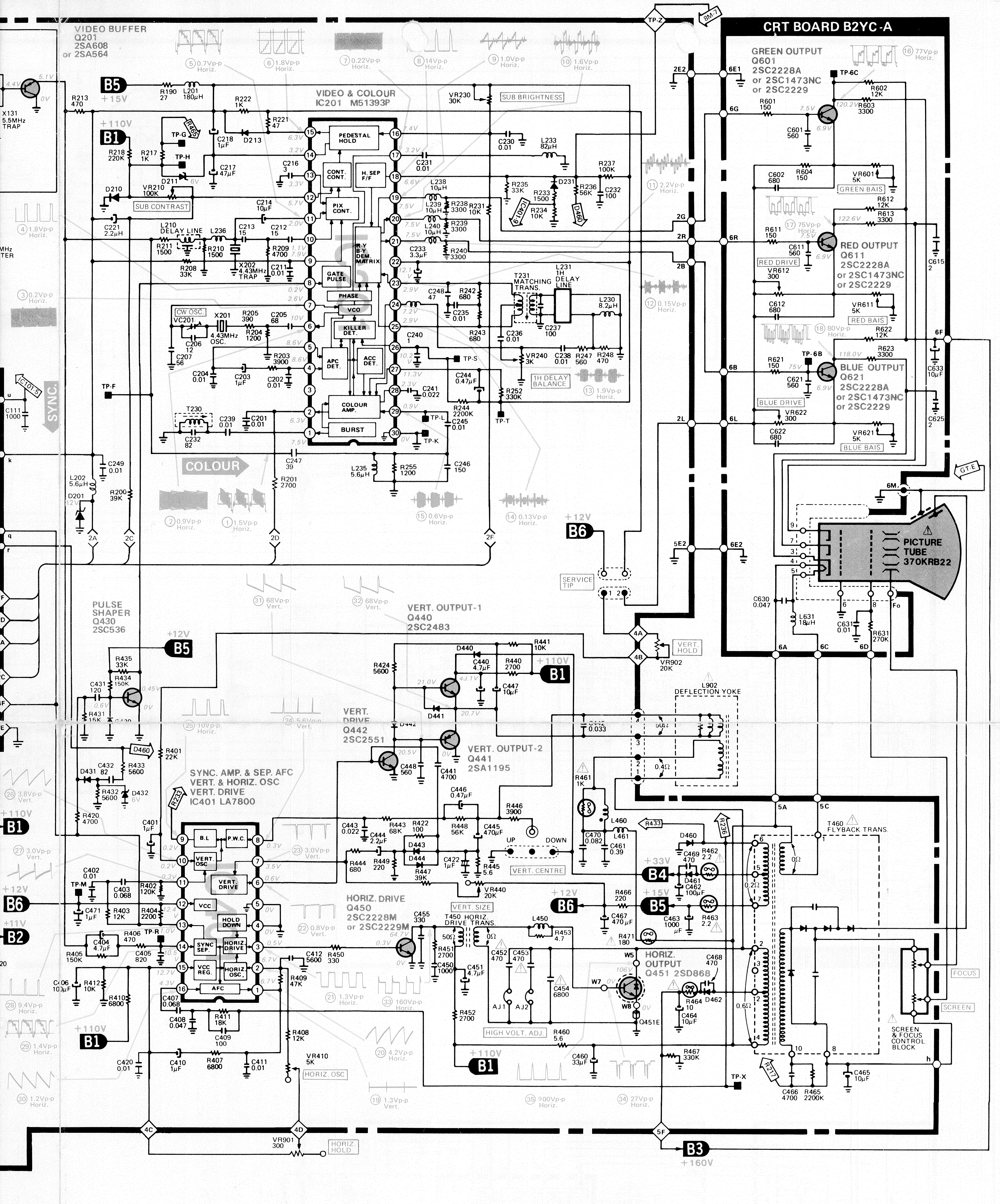
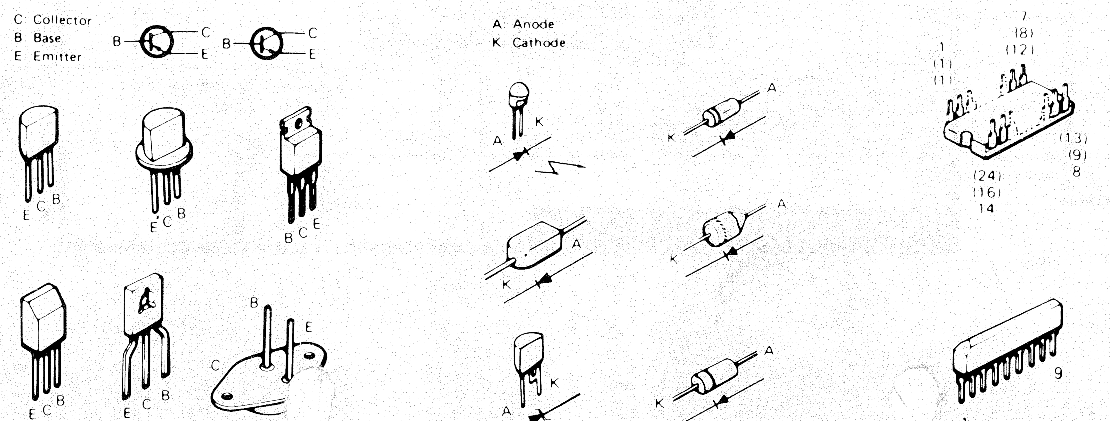

VIDEO BUFFER Q201 2SA608 or 2SA564
VIDEO & COLOUR IC201 M51393P
PEDESTAL HOLD
CONT. CONT.
H. SEP F/F
PIX CONT.
R-Y B-Y DEM. MATRIX
GATE PULSE
PHASE
VCO
KILLER DET.
APC DET.
ACC DET.
COLOUR AMP.
BURST
SUB BRIGHTNESS
SUB CONTRAST
DELAY LINE
CW OSC.
4.43MHz OSC.
4.43MHz TRAP
T231 MATCHING TRANS.
L231 1H DELAY LINE
1H DELAY BALANCE
COLOUR
SYNC.
CRT BOARD B2YC-A
GREEN OUTPUT Q601 2SC2228A or 2SC1473NC or 2SC2229
RED OUTPUT Q611 2SC2228A or 2SC1473NC or 2SC2229
BLUE OUTPUT Q621 2SC2228A or 2SC1473NC or 2SC2229
GREEN BAIS
RED DRIVE
RED BAIS
BLUE DRIVE
BLUE BAIS
PICTURE TUBE 370KRB22
SERVICE TIP
PULSE SHAPER Q430 2SC536
VERT. OUTPUT-1 Q440 2SC2483
VERT. DRIVE Q442 2SC2551
VERT. OUTPUT-2 Q441 2SA1195
VERT. HOLD
L902 DEFLECTION YOKE
SYNC. AMP. & SEP. AFC VERT. & HORIZ. OSC VERT. DRIVE IC401 LA7800
B.L
P.W.C.
VERT. OSC
VERT. DRIVE
VCC
HOLD DOWN
SYNC SEP.
HORIZ DRIVE
VCC REG.
HORIZ. OSC.
AFC
VERT. CENTRE
UP
DOWN
VERT. SIZE
HORIZ. DRIVE Q450 2SC2228M or 2SC2229M
T450 HORIZ. DRIVE TRANS.
HORIZ. OUTPUT Q451 2SD868
HIGH VOLT. ADJ.
HORIZ. OSC
HORIZ. HOLD
T460 FLYBACK TRANS.
FOCUS
SCREEN
SCREEN & FOCUS CONTROL BLOCK
B1 +110V
B2 +11V
B3 +160V
B4 +33V
B5 +15V
B6 +12V

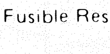
DIAGRAM NOTES:

stance values ir ohms K = 1,000, M = 1,000,000.
otherwise noted in circuit diagram all capacitor values less
are expressed in μF, and the values more than 1 are in pF.
e reading taken with "VOM" from point indicated to
ground.
e reading taken using colour bar signal, all controls at
, AFC switch in "OFF" position. Some voltage may vary
gnal strength.
rms were taken with colour bar signal and controls adjusted
rmal picture. Waveforms were taken using a wide band
cope and low capacity probe.
stance values for transformers must be measured under
d condition.
rcuit diagram covers basic or representative chassis only.
may be some component or partial circuit difference
n actual chassis and circuit diagram.

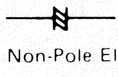
TRANSISTOR, DIODE & INTEGRATED CIRCUIT TERMINAL GUIDE


C Collector
B Base
E Emitter
A Anode
K Cathode
B
C
E
A
K

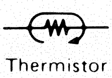
PARTICULAR PARTS SYMBOL



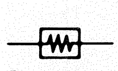
Fusible Resistor



Non-Pole Electrolytic Capacitor



Thermistor



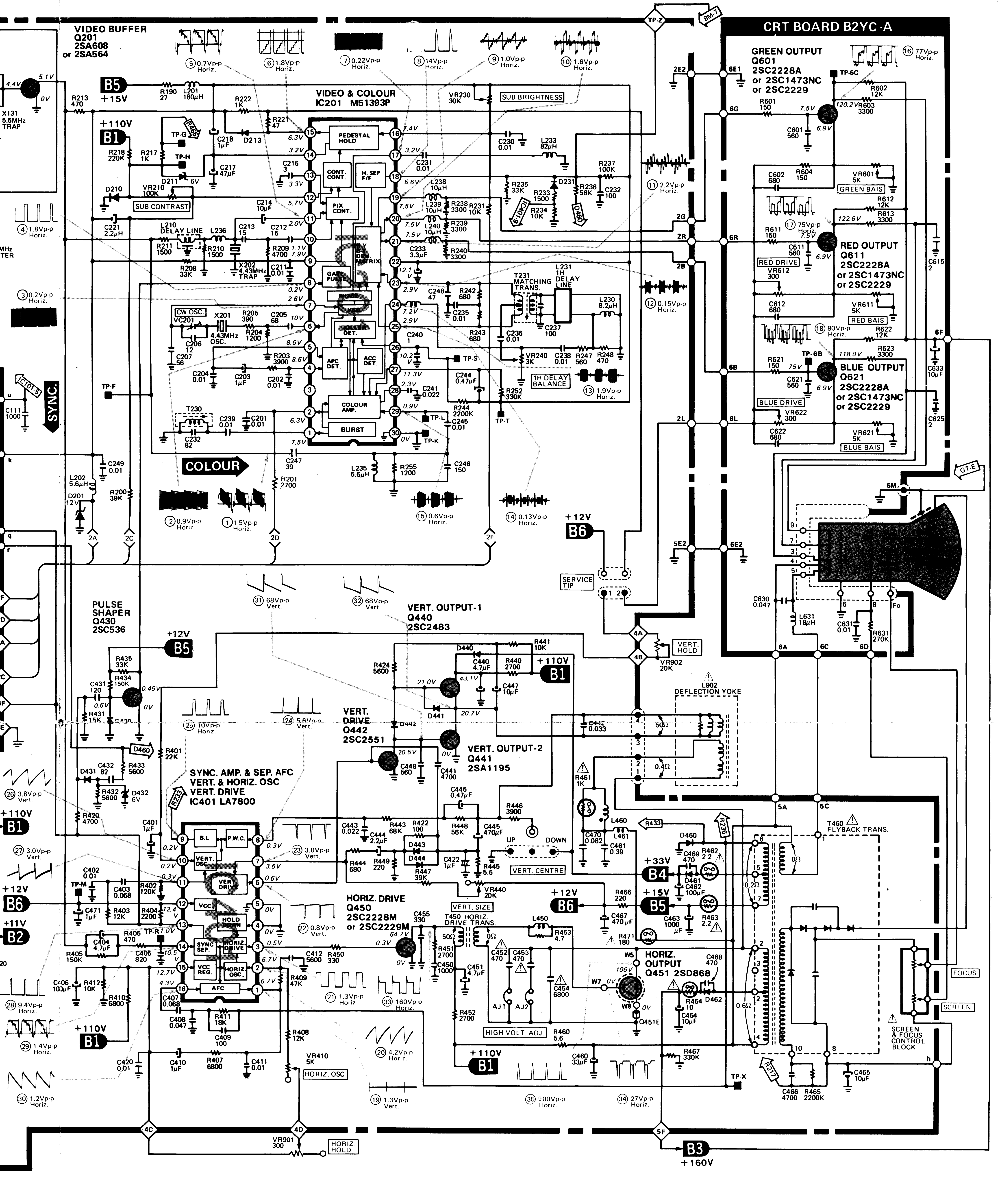
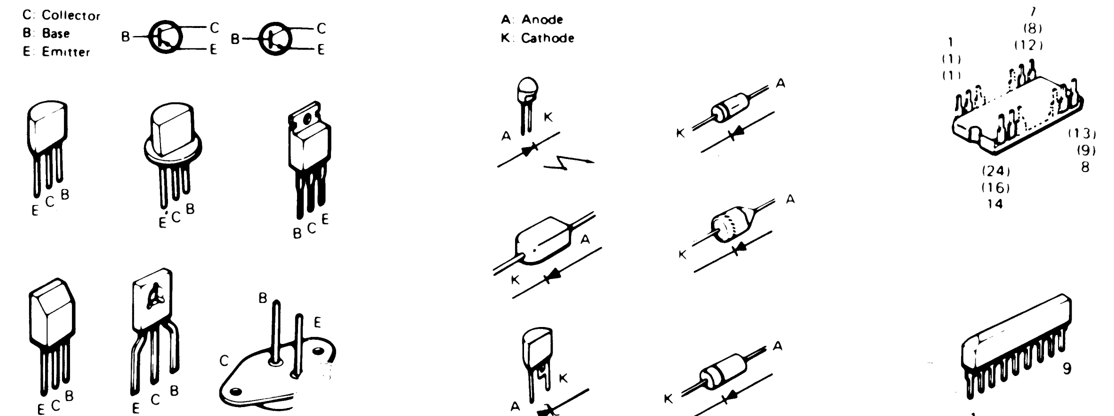

VIDEO BUFFER
Q201
2SA608
or 2SA564
X131
5.5MHz
TRAP
B5
+15V
+110V
B1
VIDEO & COLOUR
IC201 M51393P
PEDESTAL HOLD
CONT. CONT.
H. SEP F/F
PIX CONT.
Y DEL DEMATRIX
GATE PULSE
PHASE
VCO
KILLER DET.
APC DET.
ACC DET.
COLOUR AMP.
BURST
SUB CONTRAST
SUB BRIGHTNESS
DELAY LINE
X202 4.43MHz TRAP
CW OSC.
X201 4.43MHz OSC.
T231 MATCHING TRANS.
L231 1H DELAY LINE
1H DELAY BALANCE
COLOUR
SYNC.
TP-Z
8M-7
CRT BOARD B2YC-A
GREEN OUTPUT
Q601
2SC2228A
or 2SC1473NC
or 2SC2229
GREEN BAIS
RED OUTPUT
Q611
2SC2228A
or 2SC1473NC
or 2SC2229
RED DRIVE
RED BAIS
BLUE OUTPUT
Q621
2SC2228A
or 2SC1473NC
or 2SC2229
BLUE DRIVE
BLUE BAIS
GT-E
+12V
B6
SERVICE TIP
PULSE SHAPER
Q430
2SC536
+12V
B5
VERT. OUTPUT-1
Q440
2SC2483
VERT. DRIVE
Q442
2SC2551
VERT. OUTPUT-2
Q441
2SA1195
VERT. HOLD
VR902 20K
L902 DEFLECTION YOKE
SYNC. AMP. & SEP. AFC
VERT. & HORIZ. OSC
VERT. DRIVE
IC401 LA7800
B.L
P.W.C.
VERT. OSC
VERT DRIVE
VCC
HOLD DOWN
SYNC SEP.
HORIZ DRIVE
VCC REG.
HORIZ. OSC.
AFC
UP
DOWN
VERT. CENTRE
VERT. SIZE
HORIZ. DRIVE
Q450
2SC2228M
or 2SC2229M
T450 HORIZ. DRIVE TRANS.
HIGH VOLT. ADJ.
HORIZ. OUTPUT
Q451 2SD868
+33V
B4
+15V
B5
+12V
B6
+11V
B2
+110V
B1
T460 FLYBACK TRANS.
FOCUS
SCREEN
SCREEN & FOCUS CONTROL BLOCK
HORIZ. OSC
VR410 5K
VR901 300
HORIZ. HOLD
B3
+160V
(1) 1.5Vp-p Horiz.
(2) 0.9Vp-p Horiz.
(3) 0.2Vp-p Horiz.
(4) 1.8Vp-p Horiz.
(5) 0.7Vp-p Horiz.
(6) 1.8Vp-p Horiz.
(7) 0.22Vp-p Horiz.
(8) 14Vp-p Horiz.
(9) 1.0Vp-p Horiz.
(10) 1.6Vp-p Horiz.
(11) 2.2Vp-p Horiz.
(12) 0.15Vp-p Horiz.
(13) 1.9Vp-p Horiz.
(14) 0.13Vp-p Horiz.
(15) 0.6Vp-p Horiz.
(16) 77Vp-p Horiz.
(17) 75Vp-p Horiz.
(18) 80Vp-p Horiz.
(19) 1.3Vp-p Vert.
(20) 4.2Vp-p Horiz.
(21) 1.3Vp-p Horiz.
(22) 0.8Vp-p Vert.
(23) 3.0Vp-p Vert.
(24) 5.6Vp-p Vert.
(25) 10Vp-p Horiz.
(26) 3.8Vp-p Vert.
(27) 3.0Vp-p Vert.
(28) 9.4Vp-p Horiz.
(29) 1.4Vp-p Horiz.
(30) 1.2Vp-p Horiz.
(31) 68Vp-p Vert.
(32) 68Vp-p Vert.
(33) 160Vp-p Horiz.
(34) 27Vp-p Horiz.
(35) 900Vp-p Horiz.

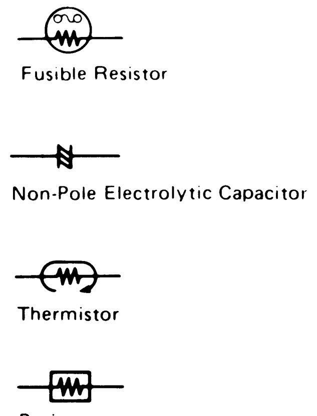
DIAGRAM NOTES:

stance values ir ohms K = 1,000, M = 1,000,000.
otherwise noted in circuit diagram all capacitor values less
are expressed in μF, and the values more than 1 are in pF.
e reading taken with "VOM" from point indicated to
ground.
e reading taken using colour bar signal, all controls at
, AFC switch in "OFF" position. Some voltage may vary
gnal strength.
rms were taken with colour bar signal and controls adjusted
rmal picture. Waveforms were taken using a wide band
cope and low capacity probe.
istance values for transformers must be measured under
d condition.
rcuit diagram covers basic or representative chassis only.
may be some component or partial circuit difference
n actual chassis and circuit diagram.

TRANSISTOR, DIODE & INTEGRATED CIRCUIT TERMINAL GUIDE

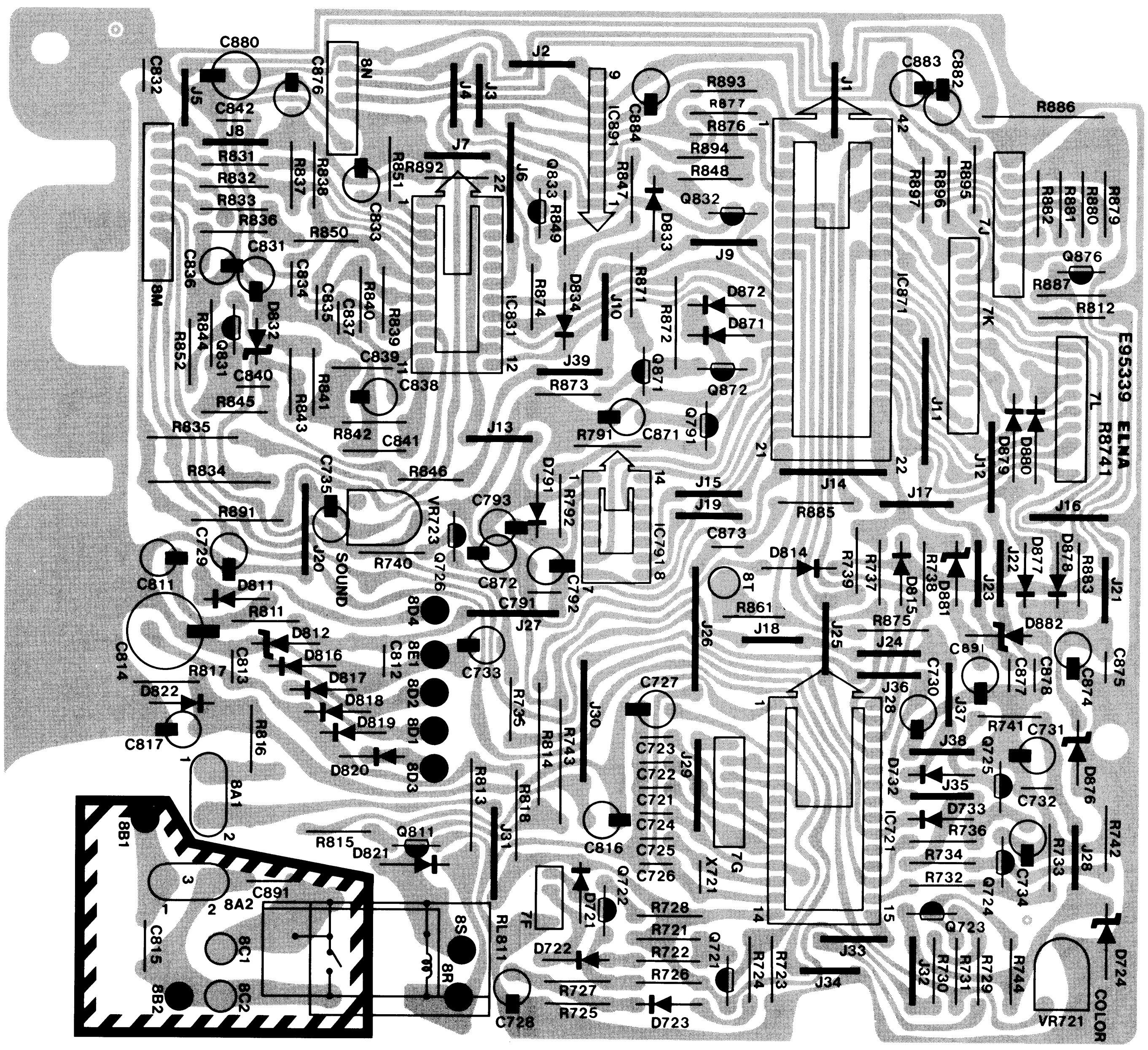

C Collector
B Base
E Emitter
A Anode
K Cathode
B
C
E
A
K
1
(1)
(1)
7
(8)
(12)
(13)
(9)
8
(24)
(16)
14
9

PARTICULAR PARTS SYMBOL


Fusible Resistor
Non-Pole Electrolytic Capacitor
Thermistor

REMOTE CONTROL TUNING BOARD

COMPONENT SIDE


E95339
ELNA
SOUND
COLOR
IC891
IC871
IC831
IC791.8
IC721
X721
RL811
VR721
VR723
8N
8M
7J
7K
7L
8T
8D4
8E1
8D2
8D1
8D3
8A1
8B1
8A2
8B2
8C1
8C2
8S
8R
7G
7F
J1
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17
J18
J19
J20
J21
J22
J23
J24
J25
J26
J27
J28
J29
J30
J31
J32
J33
J34
J35
J36
J37
J38
J39
C880
C832
C842
C876
C883
C882
C884
C836
C831
C834
C835
C837
C839
C838
C840
C841
C735
C793
C729
C811
C814
C813
C812
C817
C733
C872
C791
C792
C871
C873
C727
C723
C722
C721
C724
C725
C726
C816
C891
C815
C728
C730
C731
C732
C734
C874
C875
C877
C878
C889
Q833
Q832
Q831
Q871
Q872
Q876
Q791
Q726
Q725
Q811
Q721
Q722
Q723
Q724
D832
D833
D834
D871
D872
D791
D811
D812
D816
D817
D818
D819
D820
D821
D822
D814
D815
D881
D877
D878
D879
D880
D882
D876
D721
D722
D723
D724
D732
D733
R893
R877
R876
R894
R848
R847
R849
R886
R897
R896
R895
R882
R881
R880
R879
R887
R812
R8741
R831
R832
R833
R836
R837
R838
R850
R851
R892
R852
R844
R845
R843
R841
R840
R839
R842
R835
R834
R846
R891
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R815
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R818
R814
R743
R735
R741
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R734
R732
R733
R742
R728
R721
R722
R726
R727
R725
R724
R723
R744
R729
R731
R730

Pin	D	IC Q	C			R			X RL VR
8N			880 832 876 842	884	883 882		893 877 876	886	
		IC891				831 838 837 832	894 851 892 848	895 896 897	
7J	833	Q833 Q832	833			833 836 850	847 849	879 880 881 882	
		Q876	831						
8M 7K	872 834 871 832	IC871 IC831	836 834 835 837			840 839 844 852	871 874 872	887 812	
7L		Q831 Q871 Q872	839 840 838			841 843 845 842 835	873 791		
	880 879	Q791	841	871					
	791		735	793		834	846 792		
	814 878 877 881	IC791	729	873		891 740		885 883 738	VR723
8T	815 811	Q726	811	872 792				737 739	
8D4	882			791		811	861	875	
	812		814		875				
8E1	816		812 813	733 727	874 878	817			
8D2	817 822 818				877 891 730		735	741	
8D1	819	Q725	817	723	731	816	743 814		
8D3	876 732			722					
8A1	733			721	732		813 818		
8B1		IC721 Q811		724		815		742 736	
7G	821		891	816 725 726	734			733 734 732	X721
8A2 7F	721	Q724 Q722 Q723					728		
8S 8C1	722 724	Q721	815				721 723 724 722	744 729 731 730	RL811
8R 8C2 8B2	723			728			726 727 725		VR721

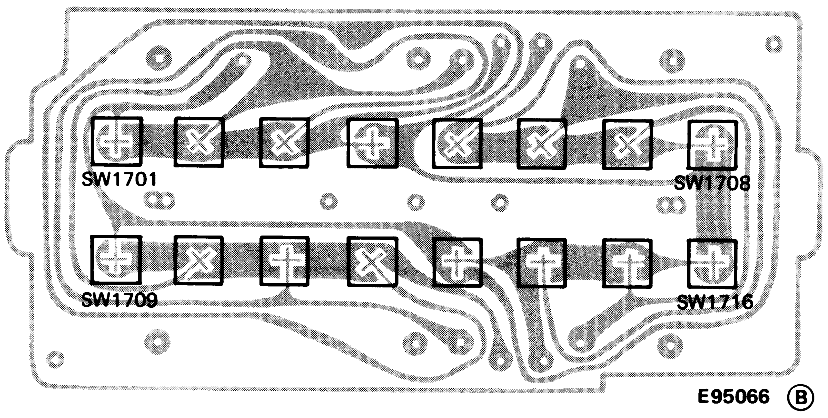
B	6
C	4
E	6

42		1	
41	5.5V	2	
40	4.7V	3	11
39	1.7V	4	
38	0.2V	5	
37	0.2V	6	11
36	2.6V	7	11
35	2.6V	8	11
34	2.6V	9	
33	2.6V	10	9
32	0V	11	9
31	0V	12	10
30	2.5V	13	0
29	0V	14	0
28	0V	15	11
27	0V	16	11
26	0V	17	0
25	11.2V	18	11
24	11.2V	19	11
23	11.2V	20	11
22	11.2V	21	11

28	0V	1	
27	11.2V	2	
26	11.2V	3	
25	11.2V	4	12
24		5	12
23		6	12
22		7	
21		8	
20	12.4V	9	
19		10	
18		11	
17	4.0V	12	5
16	6.0V	13	6
15	6.5V	14	12

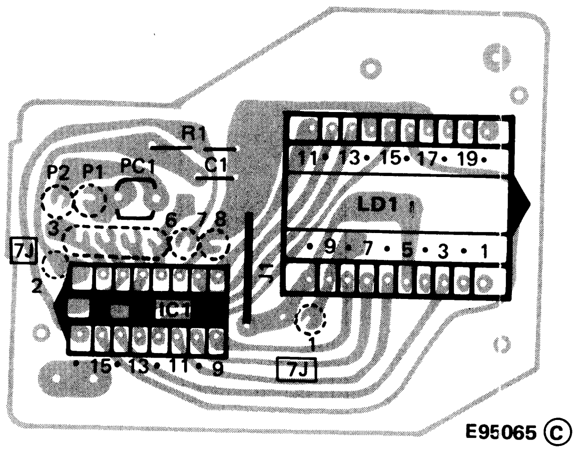
KEY BOARD-A

CIRCUIT SIDE


SW1701
SW1708
SW1709
SW1716
E95066 Ⓑ

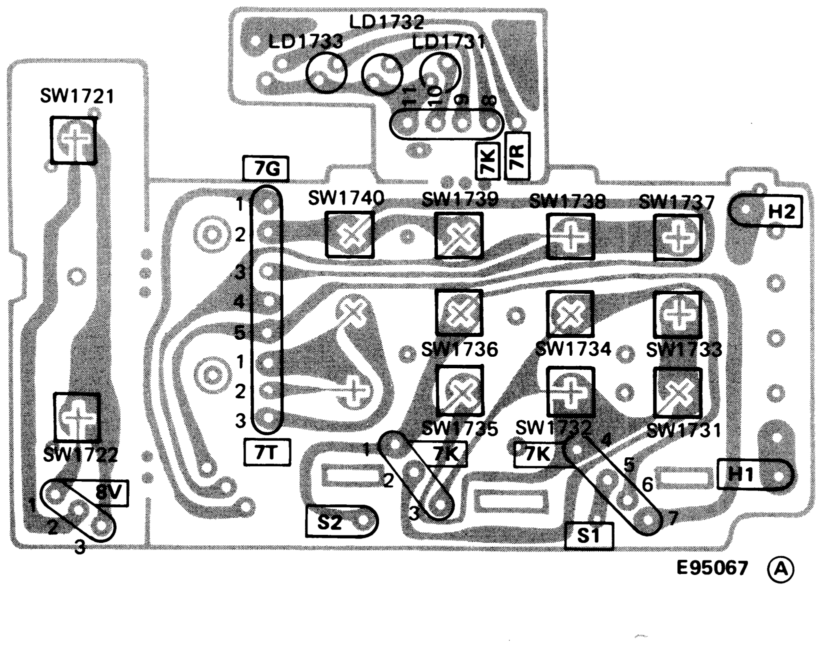
DISPLAY BOARD

CIRCUIT SIDE


R1
C1
P2
P1
PC1
LD1
IC1
7J
7J
11 13 15 17 19
9 7 5 3 1
15 13 11 9
E95065 Ⓒ

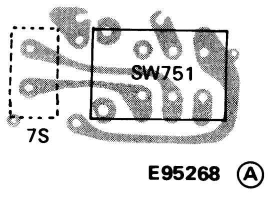
KEY BOARD-B

CIRCUIT SIDE


LD1733
LD1732
LD1731
SW1721
SW1722
SW1740
SW1739
SW1738
SW1737
SW1736
SW1734
SW1733
SW1735
SW1732
SW1731
7G
7T
7K
7K
7K
7R
8V
H1
H2
S1
S2
E95067 Ⓐ

SEARCH MODE SW. BOARD

CIRCUIT SIDE


SW751
7S
E95268 Ⓐ

X RL VR
VR723
X721
RL811
VR721

CIRCUIT SIDE

B	9.3V
C	1.1V
E	9.8V

B	0.6V
C	[illegible]
E	0V

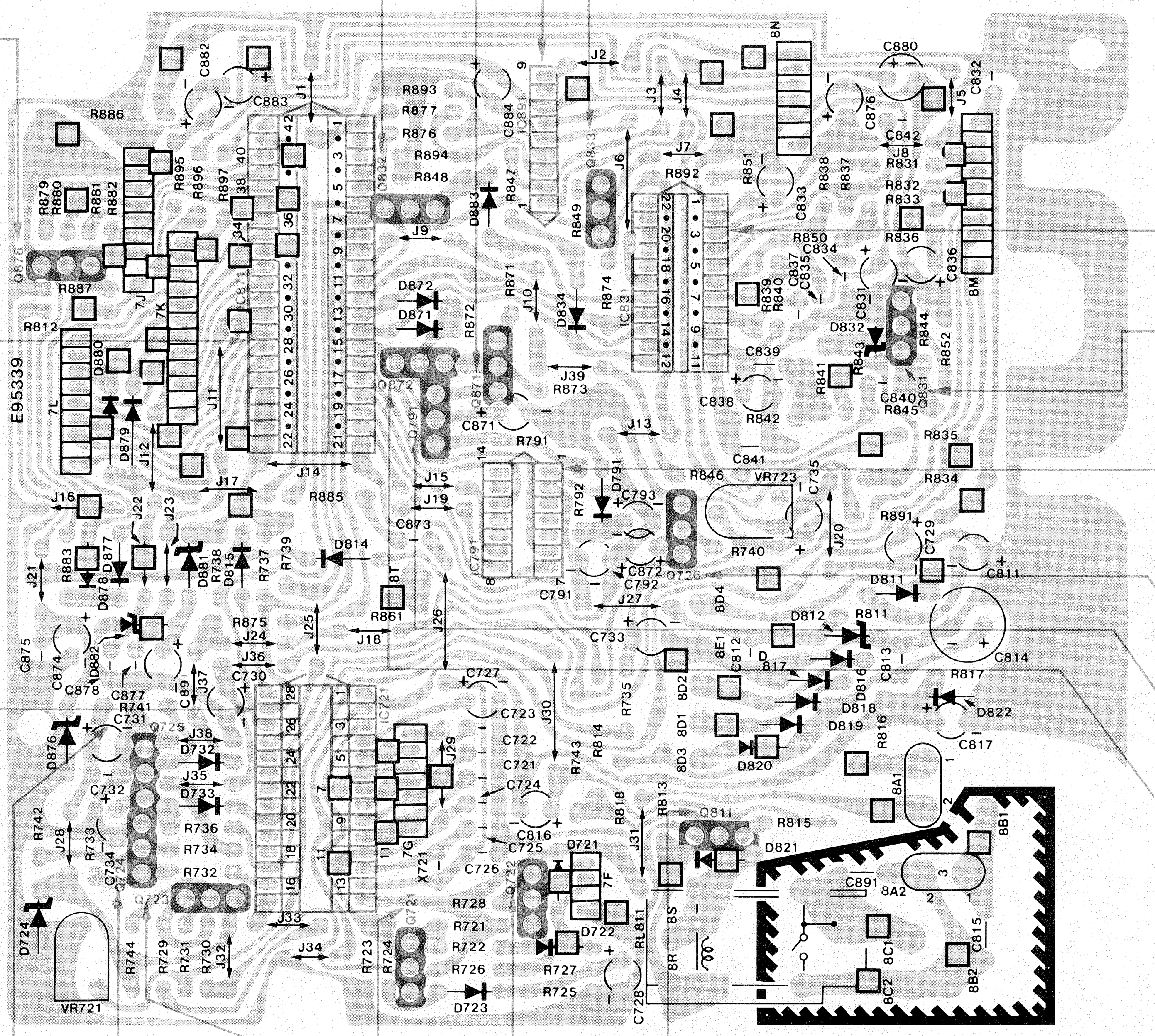
1	2	3	4	5	6	7	8	9
15.1V	0V	6.4V	7.4V	0V	28.5V	17.5V	0V	15.8V

B	0.6V
C	0V
E	1.1V

B	6.0V
C	4.8V
E	6.2V

42		1	0V
41	5.5V	2	
40	4.7V	3	11.9V
39	1.7V	4	0V
38	0.2V	5	0V
37	0.2V	6	11.2V
36	2.6V	7	11.2V
35	2.6V	8	11.2V
34	2.6V	9	0V
33	2.6V	10	9.5V
32	0V	11	9.8V
31	0V	12	10.7V
30	2.5V	13	0.1V
29	0V	14	0.1V
28	0V	15	11.2V
27	0V	16	11.2V
26	0V	17	0.1V
25	11.2V	18	11.2V
24	11.2V	19	11.2V
23	11.2V	20	11.2V
22	11.2V	21	11.2V

28	0V	1	0V
27	11.2V	2	0V
26	11.2V	3	0V
25	11.2V	4	12.5V
24		5	12.5V
23		6	12.5V
22		7	
21		8	0V
20	12.4V	9	0V
19		10	0V
18		11	
17	4.0V	12	5.9V
16	6.0V	13	6.1V
15	6.5V	14	12.5V


R886
C882
C883
J1
R893
R877
R876
R894
R848
C884
IC881
J2
J3
J4
J5
8N
C880
C876
C832
C842
J8
R831
R832
R833
R836
R879
R880
R881
R882
R895
R896
R897
Q832
Q833
J6
J7
R892
R851
R838
R837
R847
D883
R849
J9
Q876
R887
7J
7K
IC871
R812
E95339
D880
7L
D879
J12
J11
D872
D871
R872
R871
J10
D834
R874
IC831
R850
C834
C837
C835
C831
R839
R840
D832
R843
R844
R852
C836
8M
C839
C838
R842
R841
C840
R845
Q831
J39
R873
Q872
Q871
Q791
C871
R791
J13
R835
R834
J14
J15
J19
J16
J17
J22
J23
R885
C873
IC791
D791
R792
C793
R846
VR723
C841
C735
J20
R891
C729
R740
C872
C792
Q726
C791
J27
D811
C811
R883
D877
D878
D881
R738
D815
R737
R739
D814
J21
8T
R861
J26
J25
J18
R875
J24
J36
C730
C875
C874
D882
C878
C891
J37
C877
R741
C731
Q725
D876
J38
D732
J35
D733
C732
R736
R734
R732
R742
J28
R733
C734
Q724
Q723
IC721
J29
C727
C723
C722
C721
C724
C816
C725
C726
X721
7G
J30
R735
R743
R814
C733
8D4
8E1
C812
8D2
8D1
8D3
D812
R811
D817
D816
D818
D819
D820
C813
C814
R817
D822
C817
R816
8A1
8B1
R818
R813
J31
Q811
R815
D821
D721
7F
Q722
8A2
8S
8R
8C1
8C2
C815
8B2
D724
VR721
R744
R729
R731
R730
J32
J33
J34
R723
R724
Q721
R728
R721
R722
R726
D723
R727
R725
D722
RL811
C728

22		1	0V
21		2	12V
20		3	0.6V
19		4	5.8V
18		5	0.4V
17	0V	6	5.7V
16	9.7V	7	4.4V
15	10.7V	8	5.6V
14	0V	9	32V
13	11.2V	10	4.4V
12	0V	11	4.4V

B	0.2V
C	4.1V
E	0V

14		1	11.2V
13		2	−2.5V
12	0.1V	3	
11		4	
10		5	
9	11.2V	6	11.2V
8	11.2V	7	11.2V

B	0.1V
C	4.0V
E	0V

B	-0.1V
C	11.2V
E	0V

B	0V
C	0.5V
E	0V

B	0.3V
C	2.1V
E	0V

B	0.4V
C	1.7V
E	0V

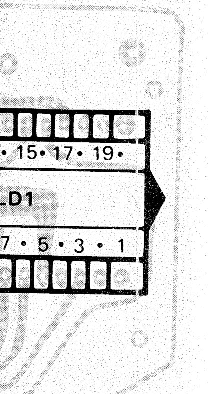
B	11.2V
C	9.1V
E	11.5V

B	12.5V
C	0V
E	12.5V

B	11.0V
C	11.6V
E	11.8V

B	0.8V
C	0.1V
E	0V

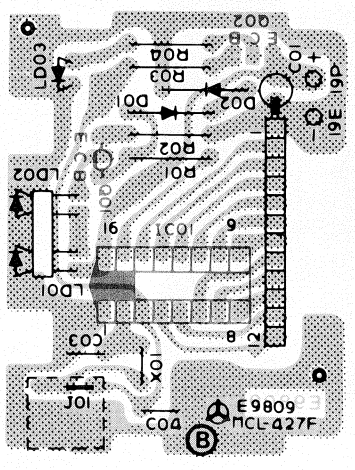
E95339 Ⓐ


15
17
19
LD1
7
5
3
1

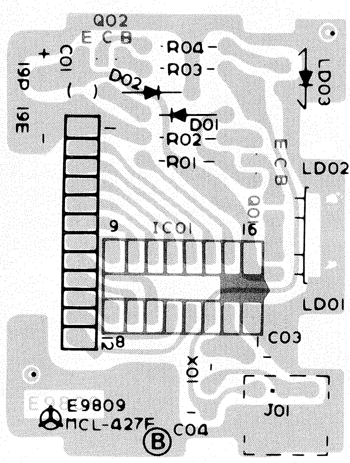
E95065 Ⓒ

REMOTE CONTROL TRANSMITTER

COMPONENT SIDE


Q02
LD03
R04
C01
R03
D01
D02
19P
19E
LD02
R02
R01
Q01
IC01
16
9
8
1
LD01
C03
X01
J01
C04
E9809
MCL-427F
B

CIRCUIT SIDE


Q02
E C B
C01
19P
19E
R04
R03
D02
D01
R02
R01
LD03
LD02
IC01
9
16
8
1
Q01
LD01
C03
X01
J01
E9809
MCL-427F
B
C04

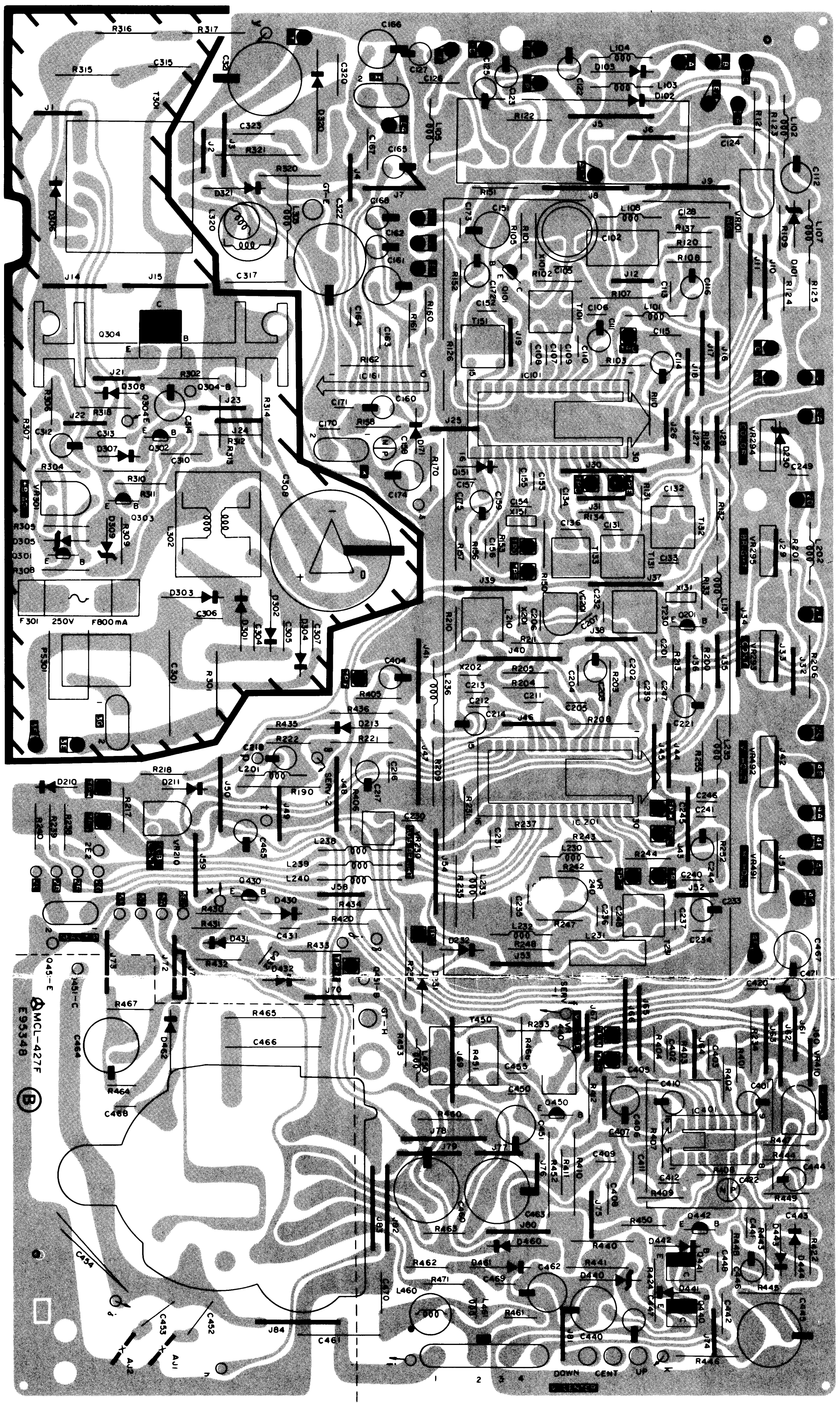
E9809 Ⓑ

RD

PRINTED CIRCUIT BOARD DIAGRAMS

MAIN BOARD

COMPONENT SIDE

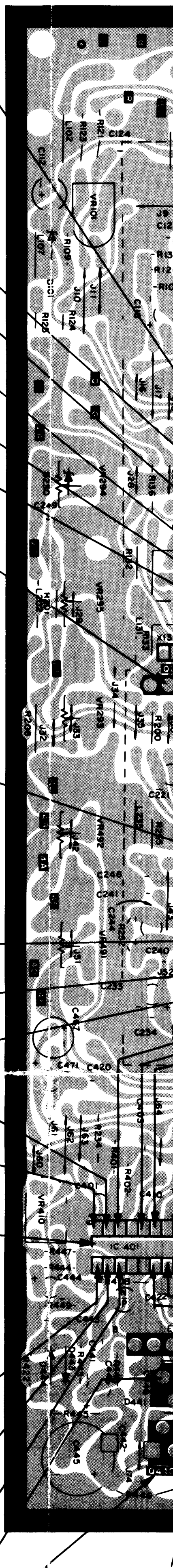


COMPONENT LOCATION DIAGRAM

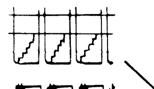
Pin		IC Q D	C			R			L T X VC	VR PS F
1D 1F 1T	1C 1B 1A 1E1 1E2	D103	315 321	166 127 125 320		316 317			L104	
1H	1P	D102		126 123	122	315			L103	
1E4	1R	D320	323		124		122	121 123	T301 L102 L105	
				167 165	112	321 320	151			
GT-E	1S 1L 1E3	D321 D306 D101	322 317	168 173 151 162 161	128 102 105		101 105 152 102	137 120 106 108	L108 L303 L320 L107 X101	VR101
		Q101		172 152 164 163	113 116 106 111 115		160 161	107 124 125	L101 T101 T151	
	1Q TP-C 1J 1G	Q304 IC161 IC101		108 107 109	110 114		126 162	103		
	2A	D308 Q304 D171	314 312 313	171 160 170 158		302 306 318 314 307 312	158	110 136		VR294
1K TP-E TP-D	2D	D230 D307 Q302 D151 Q303	310 308	157 174 175 159 154	249 155 153 134 132 136 131	313 304 310 311	170	131 134 132	X151 T132	VR301
	TP-Q TP-P	D309 D305 Q301		156	133 232	305 309 308	157 156 153 150	201 133	L302 T133 T131 L202 X131 VC201	VR295
	2F	D303 D302 Q201 D301 D304	306 304 305	206 307	207 201		210 211	213	L131 L210 X201 T230	F301
TP-F			301	404 213 204 212 211 214	202 203 239 247 205 221	301	205 204 405 436	200 206 203 208	X202 L236	PS301
3G 3F 3E	2C 4B	D213		216		435 222 221 218	209	255	L235 L201	VR492
TP-H TP-G	TP-K 4A TP-L 4E	D210 D211 IC201	465	217 230 231	246 245 241	190 240 239 238	406 231 237	243 244 252	L238 L230	VR230
2L 2B 2R	4D TP-S TP-T	Q4			244 240		235	242	L239 L240 L233	VR210 VR491 VR240
2G 5F 5C 5A 5E2	4C TP-Z 4F	D430 D431 D232 Q451	431 432	238 235	233 236 248 237 234 467	430 431 432	434 420 248 433	247	L232 L231 T231	
TP-X		D432 D231			471 420	467 465	236 233		T450	
	TP-M TP-R	D4	464 66	455 450	402 403 405 410 401		453 466 451	234 404 403 401 402	L450	VR440 VR410
		Q450 IC401	468	451	406 407 409 411 444 412 422 408	464	460 452 411	412 447 444 410 408 409 449	T460	
		Q442 D443 D460 D442 D444 D461 Q441 D440 D441 Q440	454 453 452	460 463 462 469 470	443 441 448 446 447 442 445		463 462 471 461	450 443 440 448 422 441 445	L460 L461	
	DY			461	440			446		

1	3.9V	16	3.3V
2	4.4V	17	6.3V
3	4.4V	18	2.0V
4	12.7V	19	2.0V
5	0.5V	20	5.4V
6	0V	21	8.2V
7	4.1V	22	2.9V
8	4.1V	23	2.9V
9	4.1V	24	6.6V
10	4.1V	25	3.5V
11	0V	26	5.8V
12	0V	27	5.8V
13	12.3V	28	3.5V
14	3.9V	29	4.4V
15	3.9V	30	5.2V

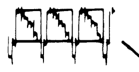
CIRCUIT SIDE



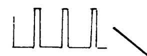
⑥ 1.8Vp-p Horiz.



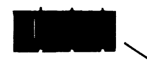
⑤ 0.7Vp-p Horiz.



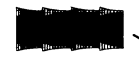
④ 1.8Vp-p Horiz.



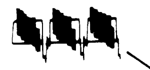
③ 0.2Vp-p Horiz.



② 0.9Vp-p Horiz.

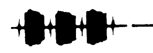


① 1.5Vp-p Horiz.

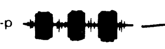


1	7.5V	16	7.4V
2	6.3V	17	3.2V
3	0V	18	6.6V
4	8.6V	19	7.5V
5	8.6V	20	7.5V
6	10V	21	7.5V
7	2.6V	22	12.1V
8	0.2V	23	2.9V
9	7.9V	24	7.2V
10	1.1V	25	2.9V
11	2.0V	26	10.2V
12	5.7V	27	11.3V
13	3.3V	28	2.3V
14	3.2V	29	0.9V
15	6.3V	30	0V

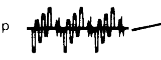
⑮ 0.6Vp-p Horiz.



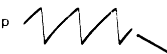
⑬ 1.9Vp-p Horiz.



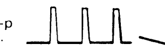
⑪ 2.2Vp-p Horiz.



㉖ 3.8Vp-p Vert.

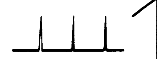


㉕ 10Vp-p Horiz.

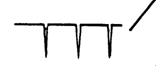


1	6.7V	9	0.2V
2	6.7V	10	0.2V
3	0.5V	11	−0.3V
4	0V	12	12.4V
5	0V	13	1.0V
6	0.6V	14	10.5V
7	3.5V	15	12.7V
8	0.3V	16	4.3V

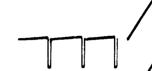
㉔ 5.6Vp-p Vert.

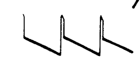


㉓ 3.0Vp-p Vert.



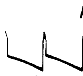
㉒ 0.8Vp-p Vert.





㉛ 68Vp-p Vert.

B	21.0V
C	43.1V
E	20.7V

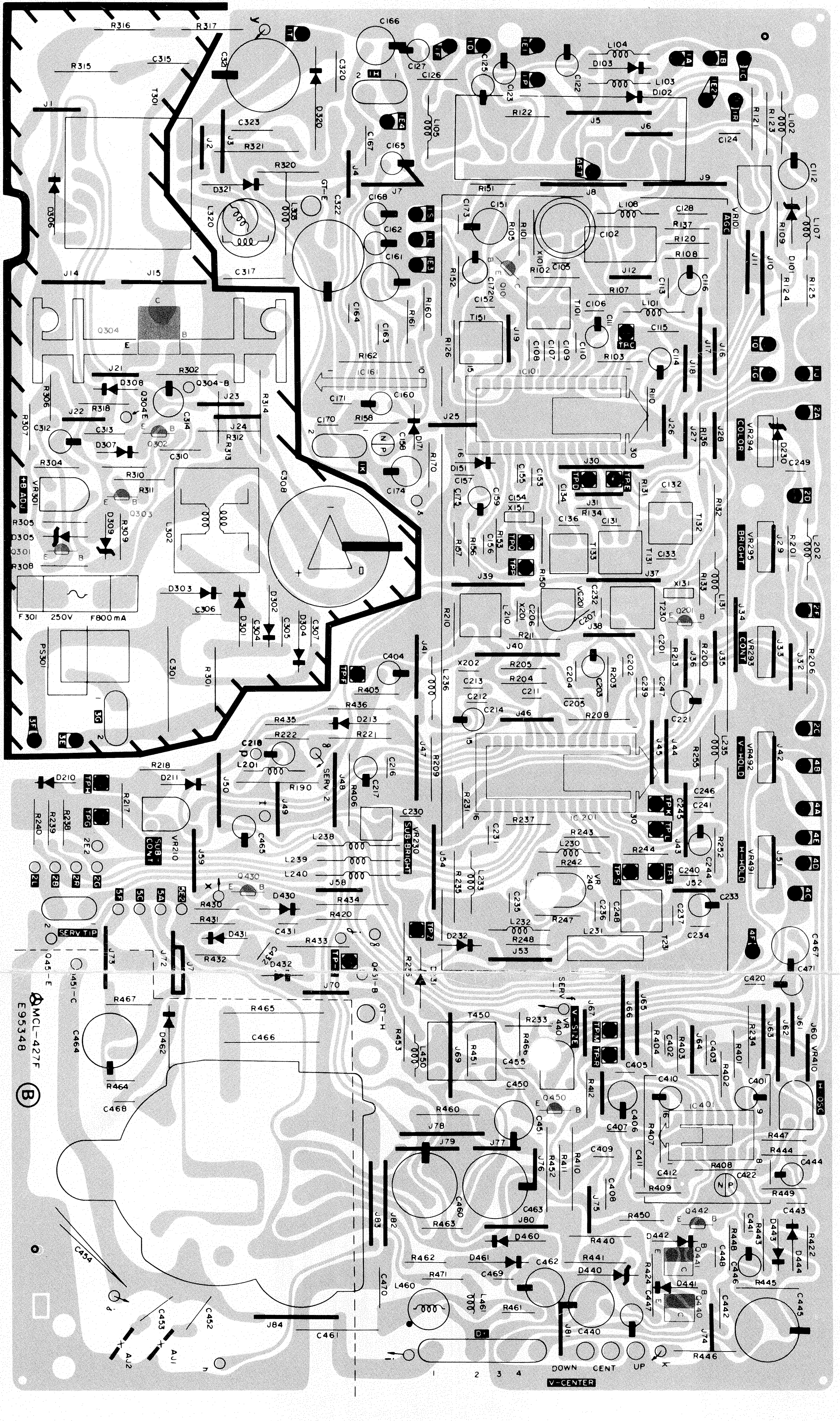


㉜ 68V Vert

PRINTED CIRCUIT BOARD DIAGRAMS

MAIN BOARD

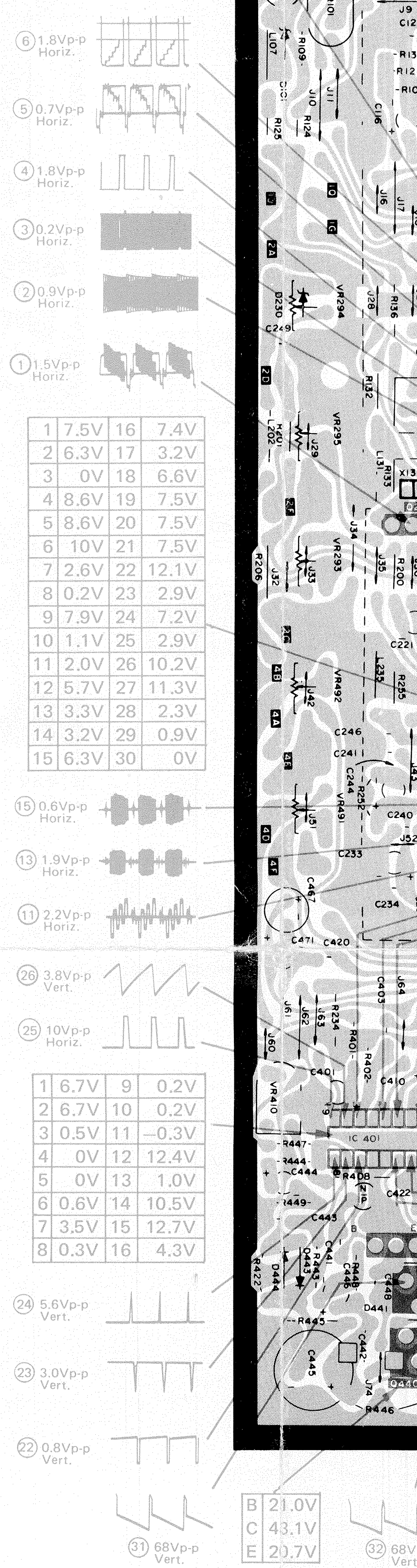
COMPONENT SIDE


F301 250V F800mA
PS301
SERV TIP
SERV 2
SUB CONT
SUB BRIGHT
MCL-427F
E95348
B
DOWN
CENT
UP
V-CENTER
V-SIZE
H-OSC
IC101
IC201
IC401

COMPONENT LOCATION DIAGRAM										
Pin		IC Q D	C			R			L T X VC	VR PS F
1D 1F 1T 1H 1E4 GT-E 1K TP-E TP-D TP-F 3G 3F 3E TP-H TP-G 2L 2B 2R 2G 5F 5C 5A 5E2 TP-X	1C 1B 1A 1E1 1E2 1P 1R 1S 1L 1E3 1Q TP-C 1J 1G 2A 2D TP-Q TP-P 2F 2C 4B TP-K 4A TP-L 4E 4D TP-S TP-T 4C TP-Z 4F TP-M TP-R DY	D103 D102 D320 D321 D306 D101 Q101 Q304 IC161 IC101 D308 Q304 D171 D230 D307 Q302 D151 Q303 D309 D305 Q301 D303 D302 Q201 D301 D304 D213 D210 D211 IC201 Q4 D430 D431 D232 Q451 D432 D231 D4 Q450 IC401 Q442 D443 D460 D442 D444 D461 Q441 D440 D441 Q440	315 321 323 322 317 314 312 313 310 308 306 304 305 301 465 431 432 464 66 468 454 453 452	166 127 125 320 126 123 167 165 168 173 151 162 161 172 152 164 163 108 107 109 171 160 170 158 157 174 175 159 154 156 206 307 404 213 204 212 211 214 216 217 230 231 238 235 455 450 451 460 463 462 469 470 461	122 124 112 128 102 105 113 116 106 111 115 110 114 249 155 153 134 132 136 131 133 232 207 201 202 203 239 247 205 221 246 245 241 244 240 233 236 248 237 234 467 471 420 402 403 405 410 401 406 407 409 411 444 412 422 408 443 441 448 446 447 442 445 440	316 317 315 321 320 302 306 318 314 307 312 313 304 310 311 305 309 308 301 435 222 221 218 190 240 239 238 430 431 432 467 465 464	151 122 101 105 152 102 160 161 126 162 158 170 157 156 153 150 210 211 205 204 405 436 209 406 231 237 235 434 420 248 433 236 233 453 466 451 460 452 411 463 462 471 461	121 123 137 120 106 108 107 124 125 103 110 136 131 134 132 201 133 213 200 206 203 208 255 243 244 252 242 247 234 404 403 401 402 412 447 444 410 408 409 449 450 443 440 448 422 441 445 446	L104 L103 T301 L102 L105 L108 L303 L320 L107 X101 L101 T101 T151 X151 T132 L302 T133 T131 L202 X131 VC201 L131 L210 X201 T230 X202 L236 L235 L201 L238 L230 L239 L240 L233 L232 L231 T231 T450 L450 T460 L460 L461	VR101 VR294 VR301 VR295 F301 PS301 VR492 VR230 VR210 VR491 VR240 VR440 VR410

1	3.9V	16	3.3V
2	4.4V	17	6.3V
3	4.4V	18	2.0V
4	12.7V	19	2.0V
5	0.5V	20	5.4V
6	0V	21	8.2V
7	4.1V	22	2.9V
8	4.1V	23	2.9V
9	4.1V	24	6.6V
10	4.1V	25	3.5V
11	0V	26	5.8V
12	0V	27	5.8V
13	12.3V	28	3.5V
14	3.9V	29	4.4V
15	3.9V	30	5.2V

CIRCUIT SIDE

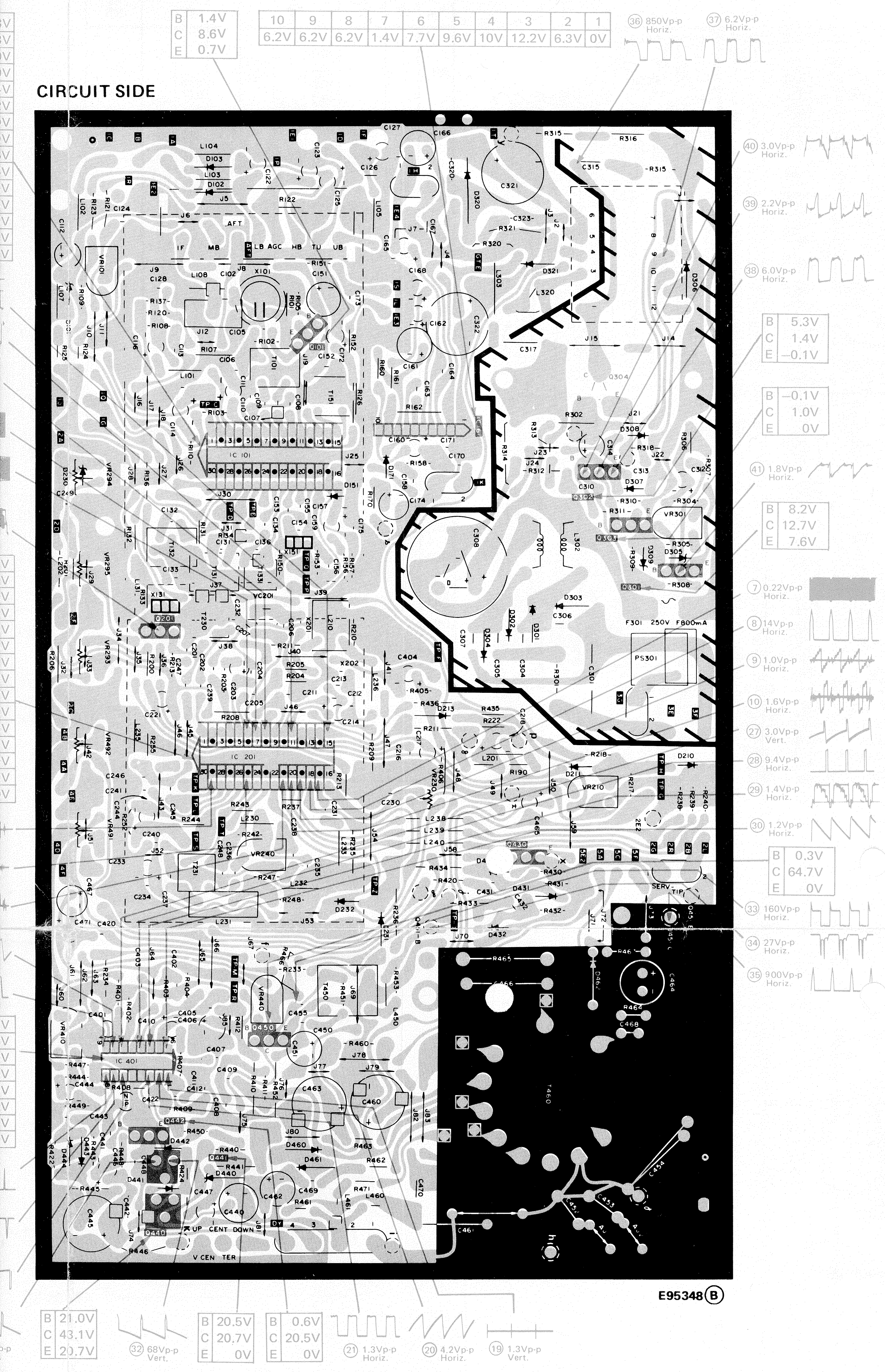

⑥ 1.8Vp-p Horiz.
⑤ 0.7Vp-p Horiz.
④ 1.8Vp-p Horiz.
③ 0.2Vp-p Horiz.
② 0.9Vp-p Horiz.
① 1.5Vp-p Horiz.
⑮ 0.6Vp-p Horiz.
⑬ 1.9Vp-p Horiz.
⑪ 2.2Vp-p Horiz.
㉖ 3.8Vp-p Vert.
㉕ 10Vp-p Horiz.
㉔ 5.6Vp-p Vert.
㉓ 3.0Vp-p Vert.
㉒ 0.8Vp-p Vert.
㉛ 68Vp-p Vert.
㉜ 68V Vert
VR101
VR294
VR295
VR293
VR492
VR491
VR410
IC 401

1	7.5V	16	7.4V
2	6.3V	17	3.2V
3	0V	18	6.6V
4	8.6V	19	7.5V
5	8.6V	20	7.5V
6	10V	21	7.5V
7	2.6V	22	12.1V
8	0.2V	23	2.9V
9	7.9V	24	7.2V
10	1.1V	25	2.9V
11	2.0V	26	10.2V
12	5.7V	27	11.3V
13	3.3V	28	2.3V
14	3.2V	29	0.9V
15	6.3V	30	0V

1	6.7V	9	0.2V
2	6.7V	10	0.2V
3	0.5V	11	−0.3V
4	0V	12	12.4V
5	0V	13	1.0V
6	0.6V	14	10.5V
7	3.5V	15	12.7V
8	0.3V	16	4.3V

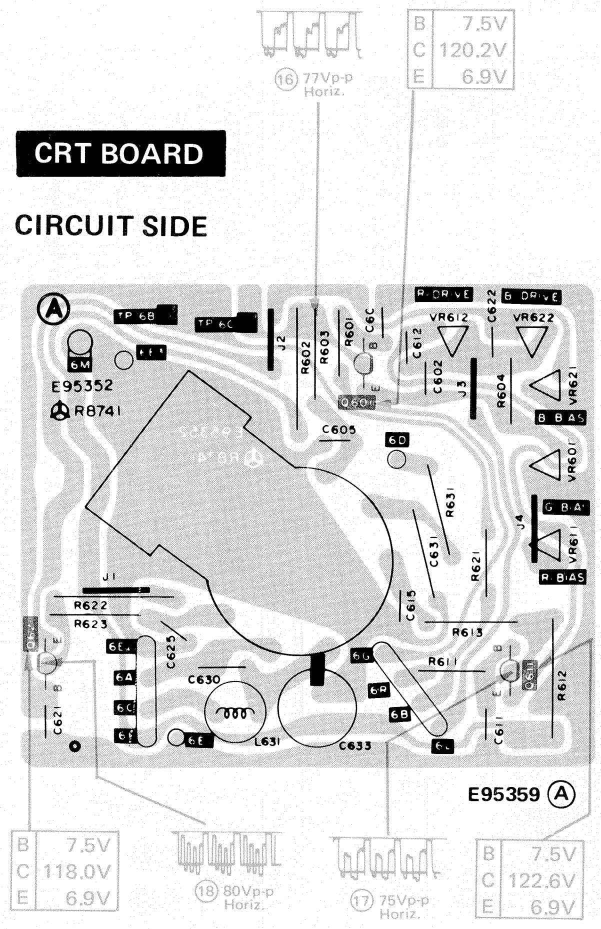
B	21.0V
C	43.1V
E	20.7V

CIRCUIT SIDE


B 1.4V C 8.6V E 0.7V
10 9 8 7 6 5 4 3 2 1
6.2V 6.2V 6.2V 1.4V 7.7V 9.6V 10V 12.2V 6.3V 0V
36 850Vp-p Horiz.
37 6.2Vp-p Horiz.
40 3.0Vp-p Horiz.
39 2.2Vp-p Horiz.
38 6.0Vp-p Horiz.
B 5.3V C 1.4V E −0.1V
B −0.1V C 1.0V E 0V
41 1.8Vp-p Horiz.
B 8.2V C 12.7V E 7.6V
7 0.22Vp-p Horiz.
8 14Vp-p Horiz.
9 1.0Vp-p Horiz.
10 1.6Vp-p Horiz.
27 3.0Vp-p Vert.
28 9.4Vp-p Horiz.
29 1.4Vp-p Horiz.
30 1.2Vp-p Horiz.
B 0.3V C 64.7V E 0V
33 160Vp-p Horiz.
34 27Vp-p Horiz.
35 900Vp-p Horiz.
IC 101
IC 201
IC 401
F301 250V F800mA
PS301
SERV. TIP
UP CENT DOWN
V CENTER
E95348 B
B 21.0V C 43.1V E 20.7V
32 68Vp-p Vert.
B 20.5V C 20.7V E 0V
B 0.6V C 20.5V E 0V
21 1.3Vp-p Horiz.
20 4.2Vp-p Horiz.
19 1.3Vp-p Vert.

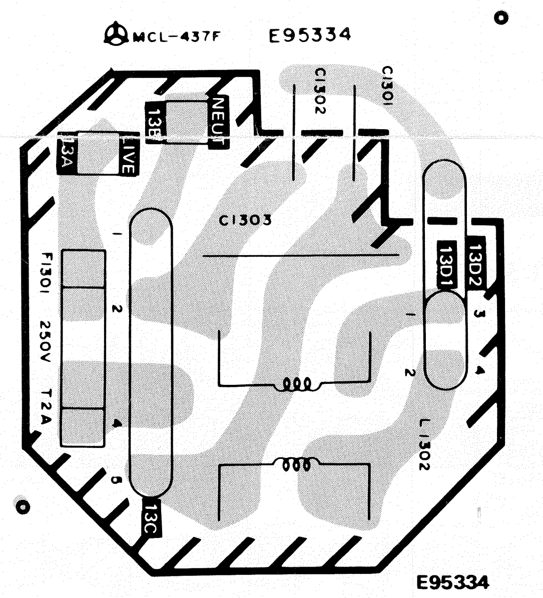
CRT BOARD

CIRCUIT SIDE


16 77Vp-p Horiz.
B 7.5V C 120.2V E 6.9V
E95352
R8741
R DRIVE
G DRIVE
B DRIVE
VR612
VR622
VR601
VR621
VR611
R BIAS
G BIAS
B BIAS
E95359 A
B 7.5V C 118.0V E 6.9V
18 80Vp-p Horiz.
17 75Vp-p Horiz.
B 7.5V C 122.6V E 6.9V

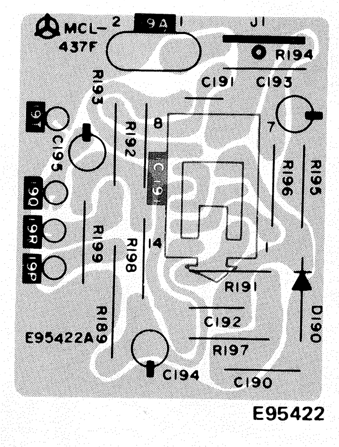
POWER BOARD

COMPONENT SIDE


MCL-437F
E95334
C1301
C1302
C1303
NEUT
13E
13A
LIVE
F1301 250V T2A
13D1
13D2
L1302
13C
E95334

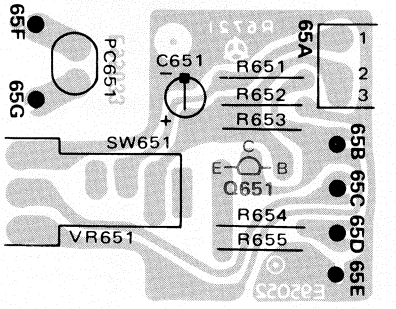
MUTE BOARD

COMPONENT SIDE

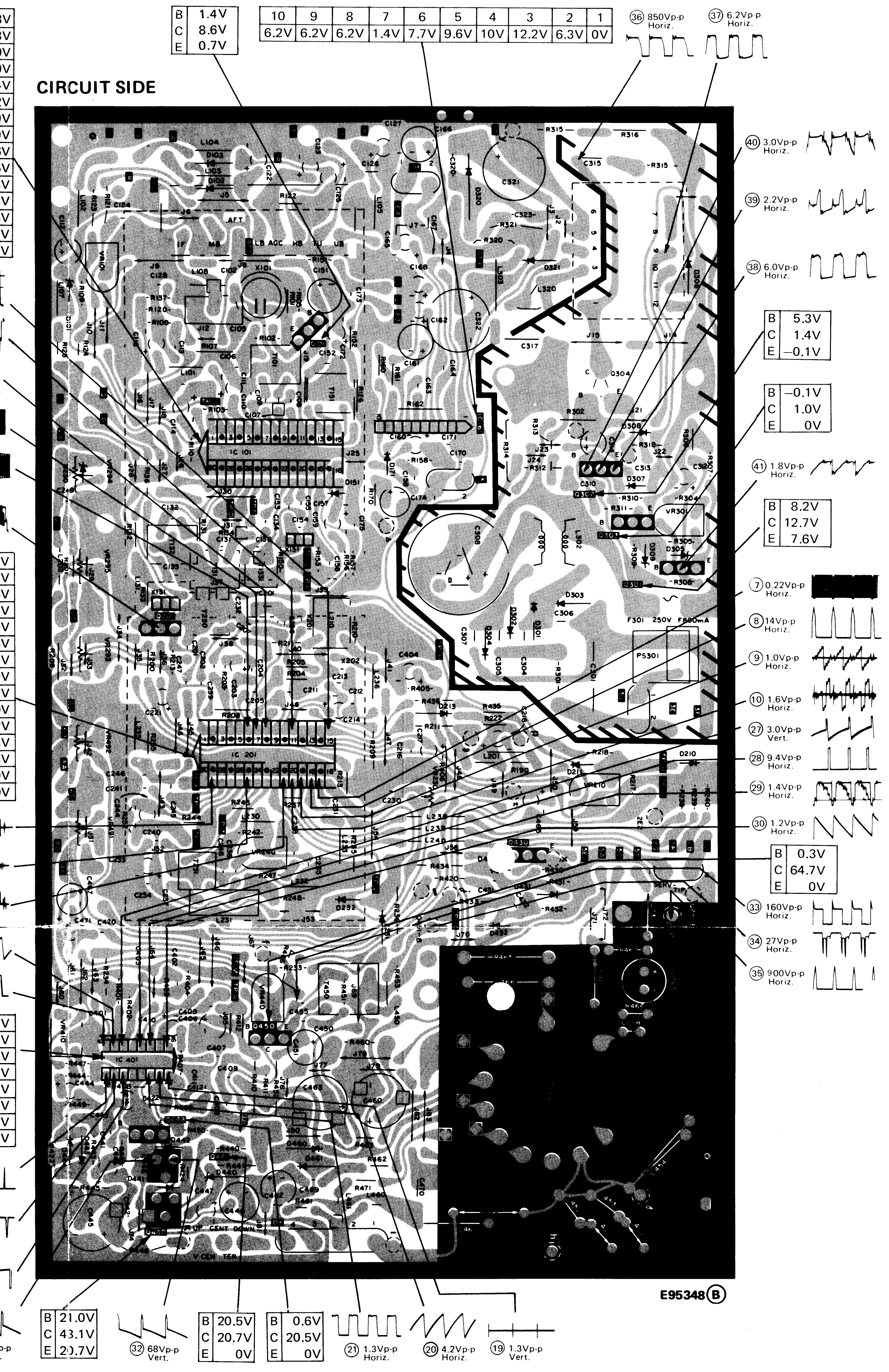

MCL-437F
9A
J1
R194
C191
C193
R193
R192
C195
R196
R195
R199
R198
R191
R189
C192
R197
D190
E95422A
C194
C190
E95422

ABC BOARD

COMPONENT SIDE


65F
65G
PC651
C651
R651
R652
R653
65A
SW651
Q651
R654
R655
VR651
65B
65C
65D
65E
E95052

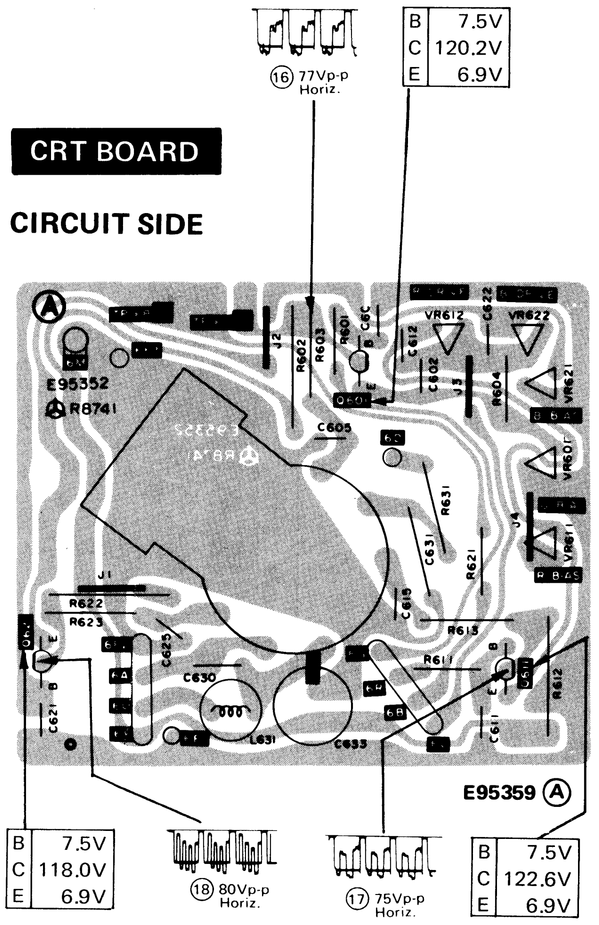
CIRCUIT SIDE



B 1.4V
C 8.6V
E 0.7V
10 9 8 7 6 5 4 3 2 1
6.2V 6.2V 6.2V 1.4V 7.7V 9.6V 10V 12.2V 6.3V 0V
(36) 850Vp-p Horiz.
(37) 6.2Vp-p Horiz.
(40) 3.0Vp-p Horiz.
(39) 2.2Vp-p Horiz.
(38) 6.0Vp-p Horiz.
B 5.3V
C 1.4V
E −0.1V
B −0.1V
C 1.0V
E 0V
(41) 1.8Vp-p Horiz.
B 8.2V
C 12.7V
E 7.6V
(7) 0.22Vp-p Horiz.
(8) 14Vp-p Horiz.
(9) 1.0Vp-p Horiz.
(10) 1.6Vp-p Horiz.
(27) 3.0Vp-p Vert.
(28) 9.4Vp-p Horiz.
(29) 1.4Vp-p Horiz.
(30) 1.2Vp-p Horiz.
B 0.3V
C 64.7V
E 0V
(33) 160Vp-p Horiz.
(34) 27Vp-p Horiz.
(35) 900Vp-p Horiz.
IC 101
IC 201
IC 401
F301 250V F800mA
PS301
VR301
B 21.0V
C 43.1V
E 20.7V
(32) 68Vp-p Vert.
B 20.5V
C 20.7V
E 0V
B 0.6V
C 20.5V
E 0V
(21) 1.3Vp-p Horiz.
(20) 4.2Vp-p Horiz.
(19) 1.3Vp-p Vert.
E95348(B)

CRT BOARD

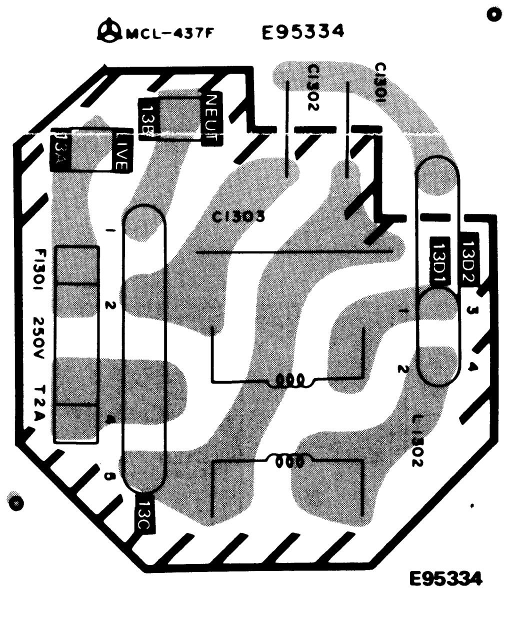
CIRCUIT SIDE



(16) 77Vp-p Horiz.
B 7.5V
C 120.2V
E 6.9V
E95352
R8741
VR612
VR622
VR601
VR621
E95359 (A)
B 7.5V
C 118.0V
E 6.9V
(18) 80Vp-p Horiz.
(17) 75Vp-p Horiz.
B 7.5V
C 122.6V
E 6.9V

POWER BOARD

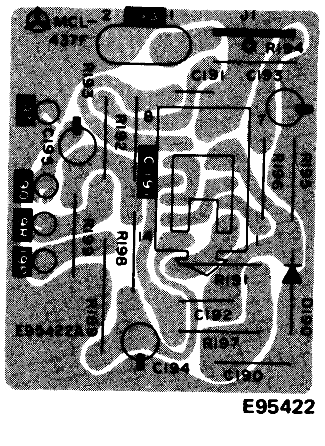
COMPONENT SIDE



MCL-437F
E95334
C1301
C1302
C1303
F1301 250V T2A
L1302
NEUT
LIVE
E95334

MUTE BOARD

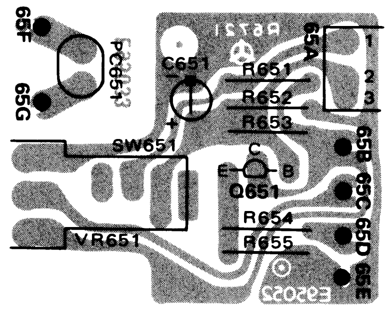
COMPONENT SIDE



MCL-437F
J1
R194
C191
C193
R195
R196
R198
R191
C192
R197
C194
C190
D190
E95422A
E95422

ABC BOARD

COMPONENT SIDE



65F
65G
PC651
C651
R651
R652
R653
SW651
Q651
R654
R655
VR651
65A
65B
65C
65D
65E
E95052